



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

24503405440



LANE MEDICAL LIBRARY STANFORD
L343 H84 1882
A rational materialistic definition of I

THE
PHILOSOPHY OF INSANITY,
CRIME AND RESPONSIBILITY.

BY
HENRY HOWARD, M.R.C.S.L., ENG.

1882.

L343
H84
1882

516.8109



WALTER CHANNING.

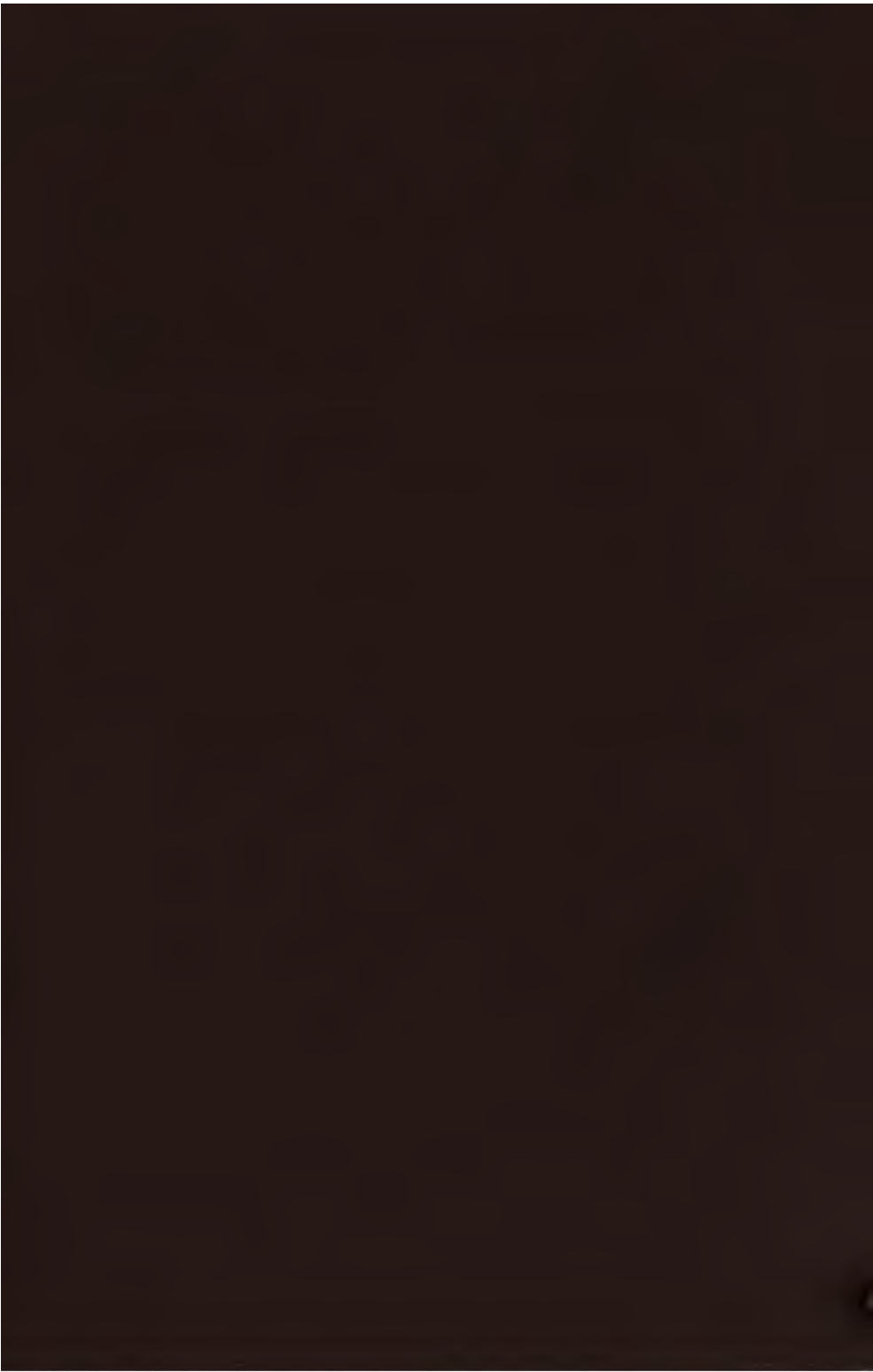
LANE

MEDICAL



LIBRARY

Exchange
Medical Library



A
RATIONAL MATERIALISTIC DEFINITION
OF
INSANITY AND IMBECILITY,
WITH THE
MEDICAL JURISPRUDENCE
OF
LEGAL CRIMINALITY,
FOUNDED UPON
PHYSIOLOGICAL, PSYCHOLOGICAL AND CLINICAL OBSERVATIONS.

BY
HENRY HOWARD, M.R.C.S. Eng.,
FOR THE LAST TWENTY-TWO YEARS CONNECTED WITH ASYLUMS FOR THE
TREATMENT OF THE INSANE ;
AN EX-PRESIDENT OF THE MONTREAL MEDICO-CHIRURGICAL SOCIETY ;
AUTHOR OF "HOWARD ON THE ANATOMY, PHYSIOLOGY AND PATHOLOGY OF THE EYE,"
PUBLISHED IN MONTREAL BY ARMOUR & RAMSAY IN 1850.

MONTREAL:
DAWSON BROTHERS.
1882.

184
882

MOST RESPECTFULLY DEDICATED
TO THE
President and Court of Examiners
OF THE
ROYAL COLLEGE OF SURGEONS,
IN LONDON, ENGLAND.

GENTLEMEN,

On the 18th May, 1838, I had the honor of being enrolled as a member of the Royal College of Surgeons, in London. My examiners were : ANTHONY CARLISLE, *President* ; JOHN LEIGH THOMAS and ROBERT KEATE, *Vice-Presidents* ; SIR ASTLEY COOPER, JOHN P. VINCENT, ANTHONY WHITE, JOHN GOLDWYER ANDREWS and SAMUEL COOPER.

The diploma handed me next morning by the kind old gentleman, WM. BALFOUR, *Secretary*, has carried me through forty years of life, during which time I have done my best to keep it honorably.

Green in my memory is my examination, and the faces of those honored gentlemen, my examiners. And now in grateful remembrance of them, and for the love and respect I bear to the dear old College, I most humbly and respectfully dedicate this work to its President and Court of Examiners.

I have the honor to be,

Gentlemen,

Your most obedient servant,

HENRY HOWARD, M.R.C.S., LONDON, ENG.

PREFACE.

FOR many years I have been convinced that if we were ever to come to a rational idea of insanity we must begin by recognizing that animal mind, as we know it, is the product of organic matter ; that, consequently, insanity was a physical disease. These convictions have been the outcome of my physiological, psychological and pathological or clinical observations, and not the result of reading. While I gratefully acknowledge the great benefit that I have derived from reading and comparing the writings of other men—those great men who are so far above me intellectually, those great men whose experience and knowledge and fame are world-wide—men that I cannot reach ; yet I am not the follower of any man, nor have I taken my views from any other man's. My views, such as they are, are my own views, and are the outcome of my individual study of nature ; but I have been glad to use other men's experience in support of my views, and glad when I found myself in accord with scientific men. While I am far from being in unison with those men who *cannot* believe in anything not of the material order nor demonstrable to the material senses, yet I respect such men, if they are gentlemen, and consider them much less dangerous to society than are the detractors, the fanatics, who speak of all men who are not of their narrow views, who do not, like them, see nature and her works through the small end of a telescope, as materialists and somatists, in the widest sense of the term—the Dugilsonian sense. These are the men who are barring the way of progress and science, and, consequently, of civilization, of justice, benevolence and humanity. It is from these men the danger comes—men who are using the same cry as was used nearly two thousand years ago, and for the same purposes,

"Great is Diana of the Ephesians!" These are they who pretend to treat matter which God created as if it were something to be despised (although they nurture it pretty carefully), and try to draw away the attention of the scientist from it. These are they who, while they pretend to pity the offender, would punish him with the utmost rigor of the law, even unto death, who mistake the spirit of vengeance for justice, and all for the sake of their idol that they fall down and worship—SOCIETY. These are they who don't want to know scientific truths themselves, nor wish others to know them, whose only weapon is the unmanly one we call ridicule. These are they who are constantly misrepresenting science and men of science, who, having themselves no fixed principles, but always in doubt, like to keep others in a similar state with themselves. I doubted that we knew what was insanity, and followed the advice of St. George Mivart: "When any man has become the victim of doubt he has no rational choice, as he has no duty, but to reason out his doubt to the end; to seek to escape them by calling up a cloud of emotion is not only useless but blameworthy." If I have not the pleasure of removing the doubts of others I have had the pleasure of removing my own.

CHAPTER I.

WHAT IS INSANITY ?

THE *Chicago Medical Review*, Vol. V., page 63, makes the following statement :

" Dr. Howard, like Dr. Nichols and others of the more scientific members of the Asylum Association, holds that imbecility is a result of teratological defect, insanity a result of pathological defect ; they therefore classify the primary monomania of the Germans with imbeciles as imbecility of the first grade, both being equally insane in the sense of the law."

This is a correct statement of the views I hold. But while holding these views I maintain that the teratological defect of the imbecile or idiot does not exempt them from pathological defect also. Consequently, we have imbeciles, who in the eye of the law are already insane, suffering like other men from pathological defect which renders them insane from a pathological standpoint. Therefore, when I speak of the imbecile as an irresponsible creature in the eye of the law, because of his teratological defect, I do not thereby mean that he is necessarily insane according to my idea of insanity. I conceive insanity to be altogether due to pathological change in the mental organization,—to be a purely physical disease from which no man is exempt, although some, particularly those of an epileptic or hysterical neurosis, are more disposed to the disease than others. Every man is either an idiot, an imbecile, or an intellectual man—imbecility and intellectuality differing in degree. The idiot and imbecile are such because their mental organization have not attained their full development,—teratological defect. An ordinary intellectual man is such because his mental organization has attained near to its full development. There are, of course, different degrees of imbecility, as there are different degrees of intellectuality, all dependent upon the different degrees of development of the mental organization. Then, again, every man is either sane or insane, because in every man's mental organization there is, or is not, pathological defect. The distinction I would make between the idiot and imbecile is that the idiot is born with a deformed imperfect brain, whereas the imbecile is one whose brain from childhood never became fully

developed. Imbecility, in its different degrees, might be very properly called the *via media* between idiocy and intellectuality.

Before attempting a definition of insanity I must assume that my reader recognizes the fact that for effect there must be a cause, and that when we see effect in material things it is legitimate in man to search for cause. I must, consequently, assume that for all physiological effects that we observe in man or any animal there must be anatomical cause. For example to walk, to talk, to see, to hear, to taste, to think, are all physiological effects of anatomical cause. Again, if we find the physiological effects alter or change we must assume that it is due to anatomical change. For example the man who walked yesterday cannot walk to-day because he is paralyzed; but what is paralysis? A pathological change in an anatomical part, so that, in consequence, the anatomical part cannot perform its physiological functions. But the anatomical cause which heretofore produced its physiological functions could not have undergone pathological change without cause. So here again we have cause for effect. Now these are all scientific facts, and it is upon these scientific facts, and such as these, that I chiefly base my theory of insanity, for I do not presume to call it more than a theory.

Before proceeding further I find it necessary to try and answer the question, as far as I possibly can: what is man, and what is his place in nature? I speak of the anthropological material man just as we find him and as far as we know him, anatomically and physiologically, for we do not know the physiology of man, because we do not know the perfect anatomy of the living man. From cadaveric examinations we know the surgical anatomy of man, the names of all the different parts of man, and the relative positions of these parts microscopically; but we do not know each and every minute part macroscopically. Again, we do not know the chemical anatomy of man, that is of each and every distinct part, even of the dead man, much less of the living man; and until we know positively the anatomy and physiology of the normal living man we never can know for a certainty the pathological changes that take place in him, producing disease, suffering and death, nor can we even be sure of the causes that produce these changes. We may, from certain clinical symptoms, from our own experience, and from the experience of others, assume that there are certain pathological changes taking place, but we never can be sure; moreover we do not know the cause, or if we think we do, we do not know the why.

With the means we have at present at our disposal, can we ever know the anatomy and physiology of the living man, or of any other living animal, so as to affirm positively we know it? Certainly not, for we never can dissect a living normal animal, for the very attempt to do so renders the animal abnormal; so while we owe something to the labors of vivisectionists, yet we must always remember that their experiments are necessarily upon *abnormal* animals. I don't know what time and art may develop, I cannot conceive the means that may be discovered by which the anatomy and physiology of the normal living man may become known, but until known, it is an absurdity for us to speak of the established principles of medical science which some medical men talk so largely about. The fact is, in this very practical and, I must add, money seeking age, we have been going too fast, we are not taking time to study natural laws as we should; every one is crying out for something practical, something that there is money in, and the man of scientific views is pushed aside as an enthusiast; yet all we do know we have learned from the despised scientific enthusiast; and this truth the great thinking men of the age have discovered. So we find Dr. Struthers, at the International Medical Congress held in London in 1881, recommending "that anatomy should be taught from the morphological as well as from the surgical point of view, microscopically as well as macroscopically." And very correctly so, for this is certainly our best chance at present. But that we may learn much, some one must invent or make a more powerful microscope than has as yet been invented. In the meantime we should make the most we can of the sciences of morphology and biology, physiology and pathology.

If we would know what is a tree, it will not do for us to simply look at the outside of it, and admire its branches, foliage and fruit. We must begin by first learning the germ cell from which it grows, then we must learn its roots and stem; we must examine every fibre of it, if we wish to arrive at the knowledge of what the tree is. Thus will we find, low as the organization of the tree is, that both anatomically and physiologically there is a resemblance between it and animal organisms; we will find that it is very hard to define the line between the highest organized vegetable and the lowest organized animal formation. First, we will find that the germ cell of the tree must have its proper *nidus* before it will grow. So with the animal organization, the germ cell will not grow except it have its proper *nidus*.

Secondly, the germ cell of the tree must be supplied with nutrition from the parent seed before it will grow ; so with the animal organization, the germ cell will not grow without nutrition from the parent ovum. The more the stem of the tree grows, the more nutrition does it require ; as the animal germ grows, the more nutrition does it require. Thirdly, as the germ stem of the tree grows, it directs its course towards a new life, towards light and air, so it bursts forth from the earth and comes to the light of the sun to begin its new life ; so is it with the product of the animal cell, it directs its course towards the sunlight, and when the proper time comes, in obedience to Nature's laws, it bursts forth from the womb of darkness and comes into light and air, and from that moment begins a new life, and ever after there is a similarity between the animal and the tree. Each has a breathing system, and each will die if deprived of healthy air, oxygen and nitrogen ; each will require sunlight, or they equally die. Each requires reproductive sustenance or they die from loss of vital force ; and each requires rest, so the animal and the tree have their seasons of rest. The tree in due time reproduces or brings forth after its kind, as the animal, in due time, reproduces or brings forth after its kind. The tree, like the animal, requires care and training in its youth ; never was there a greater truth than "as the twig is bent the tree is inclined," and many a tree, like the animal man, has been destroyed in its youth by over-forcing and over-bending, so that it grows a deformed tree, like the deformed animal man ; and once deformed, as a rule, it is impossible to make it straight again.

According to the greatest naturalists, whose authority is undisputed, as in animals so in plants, the embryonic body is a simple leaf-like rudiment, so that the embryonic bodies, whether of animals or vegetables, are nearly similar. Wolff said "that all the various parts of plants may be traced back to the leaf as their common rudiment, or fundamental organs ; flower and fruit, with all their parts, consisting only of modified leaves." These facts are well known to every botanist.

There is a zoological resemblance or type in the whole animal kingdom one with another ; and a morphological resemblance or type between the animal and vegetable. It is truly wonderful how like the tree is to the animal in the regularity of its fibres and tubes, like unto muscular fibres and tubes. But what strikes us most is the resemblance between the animal's skin and the tree's skin or bark that

envelops its body. It is the first part of the germ formation, and envelops and protects all the other parts, giving dynamical life to the tree and sensation, not conscious sensation, for the tree has not an organ of consciousness, although sensation. It is also elastic, stretching as the tree grows, and so adapting itself to the tree as the skin does to the animal. Girth the limbs of a tree, or even the trunk, that is, remove a circle of the bark, and the limb or trunk in time will surely die—positive proof that the tree receives life through the skin or bark. Now, see the similarity between the tree and animal: let a chronic ulcer destroy the whole circle of the skin of a man's leg or forearm, and temperature in the foot or hand falls below par, and if new skin is not formed by *grafting*, in time the very bones of the leg or forearm will become necrosed, that is, death will take place in the parts, and the limb have to be amputated. When I was a medical student forty-five years ago many a leg have I seen amputated from this cause, but skin grafting was not known then; these facts prove that both the tree and animal receives life from the skin that envelops them. There are various kinds of trees and plants, but there is but one natural law for them all; and there are various kinds of animals, but there is one natural law for all. The more we study the vegetable kingdom, the greater will we find the similarity between it and the animal kingdom, and that all are governed by the same natural laws; in fact, we will find that nature is one great whole, of which each and every animate and inanimate portion forms a part, these parts always undergoing change, but never annihilation. That which once *is* never can cease to be, in one state or other: always and everlasting evolution or dissolution but not annihilation. It is evident then that, if we would know man as he is, we must study nature more; we must study man from a morphological as well as from a surgical standpoint; and even then we will not attain to a full knowledge of man, either anatomically or physiologically, not even when we have studied the cadaver microscopically and chemically. We can see, already, what the study of man from a morphological standpoint has led to. For example, there is a law of nature forbidding any union between living and dead animal or vegetable matter. The gardener wishes to graft upon an apple tree another species of apple than that which it already bears: for this purpose he cuts a twig from the parent tree of the species he wishes to produce and grafts it on to another tree, and in time it becomes part and parcel of the tree upon which it has been grafted, yet it brings forth fruit similar to the tree from which it had been

removed. Now, there are two important facts established by this act of grafting. First, that cutting the twig from the parent tree did not immediately cause the death of the detached part, for if it were dead it would not grow upon the tree upon which it was grafted. Secondly, that although it actually becomes part and parcel of the tree upon which it was grafted, it has not lost the place that nature had assigned it in the first instance ; its distinguishing character remains, so it continues to bear the same sort of fruit that it did when on the parent tree.

Reasoning from this fact surgeons have engrafted skin from one man on to another, and the engrafted skin has become part and parcel of the person upon whom it has been engrafted. Finding this experiment successful, surgeons have gone much further, they have taken a piece of skin from the cadaver, four hours after death, and grafted it successfully into the living man. They have also taken a piece of bone out of the tibia of the dead sheep, and engrafted it, successfully, into the tibia and humerus of children.

Had the gardener removed the skin, or bark, from the twig of the tree that he wished to graft upon another tree, it would not have grown, it would have died, because in losing the skin it would have lost its life—not biological but dynamical life. So if the surgeon tore from the sheep's bone its periosteum, or skin, the engrafted piece of bone would have died, it would not have united with the living part. Again, if the piece of skin taken from the cadaver had not in it the principles of life * it would not have united with the living parts ; for

* One of the most interesting parts of our very interesting and ably conducted journal, *The Canada Medical and Surgical Journal*, is the quarterly Retrospect of Surgery, prepared by Francis J. Sheppard, M.D., M.R.C.S. Eng. In one of these reviews, vol. X., page 474, he gives a lucid account of sponge grafting by D. J. Hamilton, M.D., pathologist to the Edinburgh Royal Infirmary.

"It occurred to Mr. Hamilton if he could supply, instead of blood-clot or fibrinous lymph, some *dead* porous animal tissue, it also would, in the course of time, become vascularized and replaced by cicatricial tissue. He thought that sponge, if placed under proper conditions, would fulfil the object in view, for the following reasons : 1. It is a porous tissue, and would imitate the interstices of the fibrinous network in a blood-clot, or in a fibrinous lymph. 2. It is an animal tissue, and like other *animal* tissue, such as catgut, would, if placed under favorable conditions, become absorbed in the course of time. 3. It is a pliable texture, and can be easily adjusted to any surface. If therefore the blood-clot or fibrinous exudation merely acts mechanically in the process of organization, there is no reason why sponge or other porous texture should not similarly become vascular and *organized*."

On the first view of this sponge grafting it might appear to be a contradiction

it would be contrary to the natural law, that dead and living parts could join together. From these facts we have also another proof that life is not in the blood—for circulation had ceased in the cadaver four hours previous to the removal of the integument to be engrafted—but in the sensory nerves that originate in the skin, and which retained its living principle long after apparent death *. This is the science of morphology, that enables us to reason from the grafted branch of a tree to the propriety of grafting new parts into man, and doing so successfully. Thus we learn from observing nature and her laws the similarity between vegetable and animal organisms, in both the one and the other for effect there must be cause.

In answer, then, to the question what is man and what is his place in nature? I answer that man is an animal, differing in kind and degree from all others. As the highest order of vegetable organisms differs from the lowest, so man's place in nature is the highest of

to my views; but upon closely examining into the matter it will be found that such is not the case. Dead animal tissue cannot be engrafted into, and become one, with living animal organisms. The engrafted tissue must be living. It is not necessary such tissue should have biological life, but it must have dynamical life. Now the dried sponge has no life, it is only the dried skeleton of the animal deprived of all its albumen, consequently its vital protoplasm, therefore the dried sponge cannot assimilate itself, grow into, and become part and parcel of a living organism. We must therefore conclude that although dried sponge has been found very useful in the treatment of chronic ulcers, the term "sponge grafting" is a misnomer.

* In speaking thus strongly that the life is in the nervous system and not in the blood, it may be said that I am putting my opinions exactly in contradistinction to the teachings of the great law giver MOSES, but I don't think I am. I consider that MOSES in the instance alluded to, as in many other instances, spoke from a sanitary point of view, and not from a scientific standpoint. MOSES could not have been ignorant of the fact that there were many *living* animals of low organisms that were bloodless, that had no circulating system, for example the common star fish (*Wraster rubens*). Where MOSES said the blood was the life, he spoke very differently from the manner in which he spoke when he gave the ten commandments, which are alike accepted by Jew and Gentile. In like manner when it was said "the heart of man is deceitful above all things and desperately wicked." "From the heart proceeds all evil thoughts, etc., etc." We know very well we are not to accept such a statement in the literal sense, for the heart is a hollow muscle; a muscular bag, for *pumping* and receiving blood, and does not think at all either good or bad.

I consider it necessary to make these remarks lest I should unintentionally wound the sensibilities of a class for whom I have the highest respect and esteem.

from the idiot to the man of ordinary intelligence. I assume, then, that it is a scientific, demonstrated fact that for all physiological effects observable in man there must be anatomical cause, therefore that a man is intellectually what he is in virtue of his mental physical organization, no matter what causes that organization to be normal or abnormal, as the case may be.

* I shall now consider the physiology of man, as far as we know

* By the term physiology of man I mean the function of animal organisms as it is generally understood by the members of the medical profession. When I wrote my manuscript I was ignorant of Dr. Sterry Hunt's learned treatise on "THE DOMAIN OF PHYSIOLOGY," a copy of which treatise he has since then kindly presented me with, and, having read it, I am perfectly convinced of the correctness of his terminology in science, which if generally adopted would prevent much misunderstanding. Indeed, I am fully convinced, and said so in a paper I read before the Montreal Medico-Chirurgical Society, that much disputation would be avoided if men would only agree upon the meaning of terms.

For me now, however, to adopt the terminology of my learned friend, I would have to rewrite the whole of my manuscript, moreover, I would have to explain my reason for so doing, and could only do so by reproducing the whole of Dr. Hunt's treatise. According to Dr. Hunt, "The term physiology is the science of natural things." He says, "We find the word physiologist used in a general sense as equivalent to our modern term naturalist." He draws a wide distinction between the medical man, whom he calls a "mediciner," and the physician, and says, speaking of the mediciner, "It is to be wished that this word were generally adopted in our speech, since the name of physician is now given to empirics who, whatever their claims to be called curers, mediciners or medicantes, have no right to be called physicians."

I am entirely in accord with Dr. Hunt, but hope the time will come that every mediciner will be so educated in natural laws as to be deserving the name of physician. That is to say, that we retrace our steps and begin where Hippocrates left off. I again quote from Dr. Hunt's treatise, pages 9 and 10 :

"Nature, in the language of the time, was spoken of as a *vis medicatrix*, or healing power, but Virchow justly remarks that, from careful perusal of the works left us by the great master, we cannot doubt that by nature he meant the whole bodily constitution of man. Hippocrates insisted upon a treatment of diseases based not upon magic nor upon supernatural agencies, but upon the belief that nature works according to a divine necessity. In other words, he taught a system of pathology founded on the recognition of physical laws, which he opposed to the superstitious notions of his caste and his age. The eatros or mediciner was henceforth no longer a magician, nor a priest, but a physiologist, physician or naturalist, seeking for healing agencies in the study of the physical organization of the patients.

The pathology of the dogmatists who were the disciples of Hippocrates was based upon a knowledge of the structure and functions of the human organism,

it, recognizing the established fact that for physiological effect there must be anatomical cause. Man, from the moment he enters into this world until he leaves it, is always undergoing physical change. There is ever going on in the normal man waste of tissues, loss of force, a continual wear and tear from the secretions of his organs, from every action and from every thought, and a continual reproduction to supply the loss.

What a beautiful machinery is the animal economy when in a normal state, always changing, yet ever apparently the same; losing much, yet gaining more. The new-born infant grows until it becomes the fully developed man. Then comes a time of equal loss and equal supply, then greater loss than supply until the machinery wears out and comes to a stand-still, and the material animal man ceases to exist.

The whole material man is composed of animal and vegetative organs, and each of these organs has its distinct office, and its own

and of the structural and functional modifications produced alike by disease and by the action of drugs."

"But Hippocrates had still another claim to the title of physician or physiologist, since, not content with studying the physical constitution of man, he insisted upon the importance of a knowledge of all his relations to external nature. In his celebrated treatise 'on Airs, Waters and Localities,' Hippocrates declares that whoever would understand medicine must study the movements of the heavenly bodies, and all meteorological phenomena, together with physical geography, including climate, soil, vegetation, rocks, minerals and waters; to which he adds that the mediciner, if he would preserve the health of his patients and succeed in his art, would investigate 'everything else in nature.'....."

"It follows from what has been said that the word physiology, as popularly limited to the functions of living beings, is made to include many phenomena which are not biotic, but are common to the organic and mineral kingdoms, and that we need some further definition to distinguish those which are characteristic of organic life. I therefore venture to designate the study of these by the distinctive name of biophysiology, while those phenomena which are recognized as simply dynamic, or dynamic and chemic, whether manifested in organisms or in mineral species, may be included under the name of abiophysiology.

General physiology, comprehending these two divisions, will thus be restored to its original and proper signification, as an inquiry into the reason of all things in the material universe, and as distinguished from physiography, whose province is the description of universal nature.

Scientific precision demands a reform in our terminology, and requires us to extend the name of physiology once more to the processes and the activities of the three kingdoms of nature. The inorganic, not less than the organic world, has its physiology."

physiological use. Therefore, as there is a continual loss of force and tissues, and a continual reproduction, it is necessary for these constant changes that there be motion; consequently we have in man, and in all other animals of that type, the three orders of motion, viz., chemical, mechanical and molecular. The chemical in the assimilation of food in the whole of the digestive organs. The mechanical in the blood circulation, and respiration. These two orders, properly speaking, belong to the vegetative organs, and are for the re-production of waste tissues and lost force. These motions and rest are the only means of the reproduction of vital forces. Molecular motion belongs to the animal organization, that is to the brain, spinal cord, and every nerve fibre in the animal economy. We have learned through BOER, and, later, through HÆCKEL, that there is no animal life without a nervous system, and that the functions of animal life are sensation, perception and motion, so that mechanical motion in man, such as the circulation and respiration I have just spoken of, although in the vegetative organs, and for reproduction, is dependent for its motor power upon animal life, as derived from the nervous system. Therefore, when animal life ceases, vegetative life, or mechanical motion, must of necessity cease. We might as well expect a steam engine to move without steam as the heart or lungs to move without nerve force, and this nerve force is due to molecular motion. So that mechanical and chemical motion in man, and all other animals, are due to the primary cause, molecular motion. I do not say that chemical motion is necessarily dependent upon molecular nerve motion only in the living animal, because chemical change and motion never cease, even after death, in animal organisms.

We are also indebted to these naturalists for the facts that sensation, that portion of animal biotic life to which we owe all objective and subjective impressions, originates in the skin that covers our bodies; consequently the skin, of itself, is sensitive, and from itself transmits sensation to every part of the body by means of the sensory nerves which take their origin from the skin. They have also demonstrated that these nerves run to the different parts, centripetal and centrifugal. But, according to Boer and Hæckel, the second functions of animal life also primarily originate in the skin, that is, the motor nerves. In fact, according to these authorities the first germ layer is the skin, from which proceeds the whole nervous system, brain, spinal cord, and all the different nerves, so that the whole phenomena of animal life is evolved from the same source, and

the phenomena of animal life comprises *sensation, thought, perception or consciousness, and moticity*. This is great knowledge to know the phenomena of animal life, and how evolved from the living germ. But we want, if possible, to know what is this animal life, what is this molecular motion. Du Bois Raymond says it is an electric fluid in the nerves. He calls it electro-motor nerve fluid, and from his experiments I assume he is correct, but we want further proof; in fact we want a microscope strong enough to show us molecular motion, which now is invisible, although we know it to exist in the nerves. W. K. Clifford said: if we had a magnifying power of 16,000 we could see the molecular structure of water (the highest power we have I believe is 8,000), so I am afraid we will be a long time before we have a power to see molecular nerve structure, yet we know it exists, for modern biochemical research proves its existence, and in virtue of it thought is produced, and intelligence borne from the objective and subjective to the organ of consciousness.

Perfection in all these different motions, chemical, mechanical and molecular, is necessary for the normal man. It is impossible for a man to be in a normal state and have any of these motions arrested or rendered abnormal from any cause. But the one power or motion upon which thought is directly dependent is molecular or atomic electro-magnetic motion. If this motion is abnormal, thought must be abnormal also; because thought is dependent for what it is upon intelligence. For example, intelligence is borne from the objective and subjective, by means of the sensory nerves, to the organ of consciousness, and intelligence is sent forth from one man to another by means of the motor nerves; so the receiving and giving of intelligence is by means of molecular motion.* I don't forget what we owe to the organs of sense for the reception of intelligence, or what we can, for example, impart by the eye, but then all is due to molecular motion. Here then we have cause for effect.

Body and mind are one, that is to say, mind, as we know it, is the

* Professor Tyndall says: "I hardly imagine there exists a profound scientific thinker who has reflected upon the subject unwilling to admit the extreme probability of the hypothesis, that for every fact of consciousness, whether in the domain of sense, of thought, or of emotion, a definite molecular condition of motion or structure is set up in the brain, or who would be disposed even to deny that if the motion or structure be induced by internal cause instead of external, the effect of consciousness would be the same."

product of matter, as we know and define matter.* I do not say that there may not be an order of matter, and consequently mind, in man that we cannot demonstrate ; indeed, I firmly believe there is. Nor would I be understood as seeming to deny Divine revelation, which I most reverently accept ; I mean mind as constituted in *this* life, *i. e.*, mind operating by symbols or representations derived from the senses, in virtue of the organ of consciousness, without which, in our present state, no act of thought is possible. As a scientist, dealing with simply natural phenomena, I have nothing to do with their *essences* ; their fundamental underlying "*substantia*" ; or with the supernatural order of intelligence which belongs exclusively to the region of faith. I am speaking of the material animal mind as we find it in health and disease ; the mind to which the physician is called upon to administer when diseased ; and why is a physician called upon to administer to a mind diseased ? But because mind is the product of matter, and abnormal mind is the effect of a cause ; and that cause, pathological change in mind matter. If this were not the case, a medical man would be either a knave or a fool to undertake the treatment of mind diseased.

I have said that man's place in nature was the highest in animal creation, and that because of his intelligence, and that his intelligence was due to his anatomical construction, which was the cause for the effect. Now, what is the meaning of intelligence ? We often make use of the expressions, he is an intelligent man, he is an intellectual man, without duly considering the meaning of the terms. Intellect, "*intellectus*" from "*intellegere*," to understand ; from "*inter*," between, and "*legere*," to gather, collect. The organ of consciousness or perception is the subjective organ, to receive intelligence or messages from the objective ; and the sensory nerves are the messengers that stand between the objective and organ of consciousness, to bear intelligence to the organ of consciousness, no matter what the objective may be, whether it is seen or heard, tasted or smelt or felt. All intelligence is carried to the organ of consciousness by means of the sensory nerves. For example, an object seen is pictured upon the retina, but the impression of that picture is borne to the organ of consciousness by means of the sensory nerves, so that the organ of consciousness perceives

* By this identity of mind and matter I refer simply to the manifestations of mind during this life through its material medium, *viz.*, the body. And, *in this respect*, mind and matter are *one in operation and in condition*.

all things objective by means of the sensory nerves. Then what intelligence we receive, when we will, we impart through another channel, and that is through the medium of the motor nerves. So to constitute an intellectual man, it is necessary that the whole mental organization should be normal, that is, anatomically normal; neither pathological defect, which would be insanity, nor teratological defect, which would be imbecility.

The organ of consciousness must be normal, the sensory nerves normal, and the motor nerves normal. When we remember that the development of the brain is a matter of time, and that some brains are never developed, as in the idiot and imbecile, and when we remember at what an early age the infant begins to observe the objective, that is to receive intelligence from the objective to the organ of consciousness, we can easily understand the effect of education upon the organ of consciousness (I speak of education in its widest sense), and recognize the fact that as the child grows up to maturity its mental organization must be affected to a great degree by its surroundings, by its environment. Therefore, for a child to grow to be an intellectual man, he must not only have normal brain and nerve structure, but his surroundings, his environment, his objective, from which he receives his intelligence, must be good, must be normal. How can we expect a child to grow up to be an intellectual man whose surroundings, from infancy to manhood, have been everything that was vile and criminal? These are the causes of the different grades of society, classifying society by its different degrees of intelligence. And here I will give my idea of the highest order of intelligence. My idea of the most intellectual man is the man that does right because *it is* right, the man of benevolence and justice, the man that lives closest to the good old golden rule, doing unto others as he would that others would do unto him, being humane and just in all things.

Before answering the question, what is insanity? it is necessary to ignore the idea that consciousness is something incomprehensible, and recognize that it is the product of an organ of the brain, situated in the cortical portion of the anterior hemispheres, in which terminates the *afferent* sensory nerves, and in virtue of this organ we obtain the knowledge of the objective and subjective. To me it is incomprehensible why so many writers should speak of consciousness as something inexplicable. I see no reason why there should not be an organ of consciousness, as well as organs for speech, seeing, hearing, tasting,

smelling, etc. Once that we recognize that there is in the brain of man, an organ of consciousness, and that the sensory nerves are sensory *per se*, we remove all the obstacles that stand in the way of proving insanity to be a *physical* disease. That sensation exists independent of the brain is evident from the reflex action produced in the decapitated frog, from irritation of the sensory nerves. But in virtue of the organ of consciousness we are cognizant of sensation, and of all things objective and subjective—painful and pleasurable sensations.

In the October No. of *Brain*, for 1881, Vol. IV., page 287, there is an article by Alexander James, M.D., entitled, "The Reflex Inhibitory Centre Theory," deserving the consideration of the mental scientist. The object of the writer is to show that reflex action is dependent upon the cord and caused by peripheral stimuli, and the less of cerebral influence the greater the reflex action. He says, "apart from the experimental evidence against it, viz., that stimulation of any afferent nerve will, in the absence of cerebrum, optic lobes and medulla oblongata, cause inhibition of reflex action on removal of the brain is to be expected. In the entire animal the effects of a peripheral stimulus are carried in part to the motor centres in the cord, and in part to the brain; in the former resulting in motion, in the latter in *sensation*. In the decapitated animal, on the other hand, the nerve channels leading to the brain are cut, and have the effects of a peripheral stimulus are manifested as motion alone." At page 301 he says (after proving his theory by experiments), "assuming now that this increase in the reflex function of the cord which ensues on the removal of the higher centres is due to the obstruction or cutting through of nerve channels, and consequent concentration, our next subject is to consider more in detail what these channels are."

"The first idea which is here likely to occur is that they are sensory, inasmuch as we stated at the beginning of this paper that the impulse generated in the cord by peripheral stimulation is in part conducted to the brain, to produce consciousness, and in part in the muscles, to produce motion."

I have made the foregoing extract in support of my theory that consciousness is dependent upon an organ of the brain which is depending for sensation upon the afferent sensory nerves, or, as James says, an organ produced by them.

I have said that sensation was *sui generis* of the skin that envelops

our bodies, but what is it that causes sensation? My theory is that it is due to the electric or vital fluid that is generated in the nerve cells of the skin, which nerve fluid is conducted by means of the sensory nerves to the brain by molecular motion. Thus the organ of consciousness receives messages from the objective by means of the afferent, and dispatches messages by means of the efferent nerves to all the motor nerves of the body by the same molecular motion, stimulating the motor nerves into action, producing mechanical motion. Immaterial whether this mechanical motion be voluntary or involuntary, it is produced by this electric fluid through the sensory nerves, whether passing first by means of the afferent nerves to the organ of consciousness, and from them, by means of the efferent nerves or by the sensory nerves, going directly to the motor nerve centres in the cord, causing reflex action. All thought and all motions of the body are, directly or indirectly, dependent upon this electric vital fluid generated or evolved in the nerve cells of the skin, and discharged from the body, by thought and mechanical motion, and, consequently, always requires to be reproduced or re-evolved.

To arrive at a definition of insanity we must ignore the classification made of it from psychological symptoms, recognizing such symptoms only as symptoms of insanity, differing in each individual, because each individual differs from another, whether sane or insane. It is this classification of insanity that has caused the idea to take hold of us, that a man could be partially insane, that he could partially be responsible. It is this classification which caused the curious psychological idea that the knowledge of right from wrong was a proof of sanity, and which caused the hanging of Hayvren and many other insane persons. But of this I will speak more particularly in the second chapter.

Reason is to man what the helm is to the ship? by it man steers his course through life's troubled sea, and avoids the rocks and quicksands that are daily in his course. But a man cannot by his reason alone know these rocks and quicksands, he can only know them by his consciousness and by his organs of sense and sensory nerves which bear intelligence to his organ of consciousness, of all that is objective, so that when consciousness fails him reason is no longer of use, and the man, no longer cognizant of the danger which surrounds him, like a helmless ship at sea, is sure to be wrecked. Neither intuition nor instinct can save him, for both one and the other are the outcome of

the sensory nerves : at least such is my belief, of instinct and intuition.* From what I have written the reader will understand my meaning when I say that body and mind are one, and that man is intellectually what he is in virtue of his physical organization : consequently, that insanity, being an abnormal state of mind, is the effect of pathological matter, therefore a purely physical disease, that whatever may be the symptoms presenting themselves, physiological, psychological or pathological, these symptoms are the effect of anatomical cause. That as the idiot, imbecile and intellectual man are such in virtue each of his physical mental organization, so a man becomes insane in virtue of a pathological change in his mental organization ; and as I accept the theory of double transmission to be correct—DR. MARIO PANIZZA to the contrary—my theory is that this physical, pathological change is due to a mechanical lesion or chemical change in the sensory nerves and organ of consciousness, or in the organ of consciousness alone,

* What do we mean by instinct ? We don't like to admit that any animal but man reasons, consequently we are accustomed to say of other animals that they are guided by their instinct, although the more we study their actions—for example, the actions of the dog and the wise ANT—the more we are convinced there are other animals that reason as well as man. But we claim for ourselves both reason and instinct, and I consider we are correct in doing so. We are all aware how we instinctively avoid and escape a danger, and have no knowledge at the time that we were in danger, or what constituted the danger. Again, we are instinctively repelled or attracted by a person or place for which we can assign no reason, and very frequently we find our reason and judgment yielding to instinctive impressions even against our will.

Now my theory is that what we call instinct is nothing more or less than reflex nerve action caused by peripheral irritation, irritation that don't reach the organ of consciousness although it does a motor nerve centre, and probably the sympathetic nerve ganglion, and whether we are attracted or repelled depends upon what it is that stimulates the peripheral sensory nerves. It may be atmospheric matter which may be either magnetic-electric, electro-magnetic, or some atom possessing some chemical properties that we are ignorant of, so minute and subtle as not to be recognized by the organ of consciousness yet cause reflex nerve action, affecting our emotions, creating that feeling that for want of a better name we call instinct. This is all perfectly comprehensible in accordance with the established laws of chemical affinity or magnetic energy, considering the apparently trifling agencies that cause typhoid, typhus, and scarlet fevers, measles and small-pox, etc., etc., all of which are unconsciously received into the system, yet producing such fearful physical effects. That reflex action can be produced from causes independent of consciousness, has been proved by experiment, and more particularly when it is an established fact that the less there is of consciousness the greater the reflex action.

which mechanical lesion or chemical change renders this organ and nerves, or organ or nerves, analgeric or anæsthetic ; that, consequently, false intelligence, if any, is borne by the sensory nerves to the organ of consciousness, or the organ itself, incapable of receiving intelligence because of its abnormal state. Under either or any of these circumstances consciousness is deranged or confused to a greater or less degree, intelligence is arrested or dethroned, reason has lost its pilot, reflex action to a great degree takes its place, and the result is insanity.

There are different degrees or stages of insanity, depending of course upon the extent of the mechanical lesion or chemical change in the anatomical parts, but no partial insanity. A man has but one mind, and that mind, a unit, either is or is not insane. We might as well say that a man had a partial typhoid fever, as to say that a man was partially insane. This idea of partial insanity, of monomania has resulted from the classification of insanity into different forms from psychological symptoms. The same may be said of what is called moral insanity, that is to say, that a man might be intellectually sane and morally insane, which is simply nonsense. Nature makes no such distinction : when a man is intellectually insane he is all insane.

Before offering any of what I conceive to be positive proofs of the correctness of my theory of insanity I will try and exhaust the negative. What have pathologists done to throw light upon the cause of insanity? Very much : they have at least shown what was not the cause of insanity. In those who have died, while insane, in those who have died who, at some time of their life, had been insane, the pathologist in his examination of the cadaver, has, at times, found abnormal states of the skin, of the intestinal system, of the nerve system, of the muscular system, of the vascular system, of the glandular system, of the sexual system, and even of the skeleton.

BRAIN AND SPINAL CORD.

In these parts, pathologists have found new growths, tumors, abscesses, softening, sclerosis, macroscopical and microscopical lesions of tissues and soft parts. But then all of these states have been found in the cadaver of persons who never had been insane ; and, on the other hand, in some persons who had been insane none of these pathological changes were found in the cadaver.

they are macroscopical and microscopical, therefore, when organic change takes place in the vascular or digestive organs, causing death, they are demonstrable in the cadaver. But when organic changes takes place in the molecular or electro-magnetic nerve motion, or in what Du Bois Raymond calls electro-nerve motion, we have no means of demonstrating that fact. We have no microscopical power sufficient to demonstrate the change that takes place, yet change in it there must be to cause death from insanity. My theory is that death from insanity is caused by the arresting of molecular motion, and that the cause is due to coagulation of nerve fluid from either chemical change or mechanical lesion, for animal life and coagulation are incompatible.

This, in my mind, is the reason why anatomical pathologists have failed to find cause for death in those who have died *of*, or more properly speaking, *from* mania or insanity.

We sometimes find persons become suddenly maniacal and dying in a few days, nay in a few hours, and society is shocked at the sudden death. Now why is this?

People are not surprised when they hear of a sudden death from apoplexy or disease of the heart; why then when they hear of a sudden death from insanity? Simply because they are not accustomed to consider insanity as a physical disease, because we cannot show in the cadaver the cause of death; the mechanical lesions or chemical change are neither macroscopic nor microscopic. But after all, many other people die as well as maniacs, and we cannot show cause for their death. Yet people are not surprised. Pathology then has simply enabled us to exhaust the negative, that is, it has proved to us what are not the physical changes which cause insanity, and it thereby turns our attention to some other channel where happily we may find out the cause. Therefore the labors of the pathologist have rendered the greatest possible service to medical science, and no doubt but what it will yet do much more.

MEDICAL TREATMENT OF INSANITY.

What knowledge has the medical treatment of insanity afforded us towards giving us any idea of what is insanity? Unfortunately very little. It has been purely a treatment of symptoms without knowledge of cause, *empirical treatment*. At one time or another all the different medicines of the Pharmacopœia have been recommended

and tried for the cure of insanity: result *nil*, and very frequently something worse.

I must not overlook the fact of how difficult it is to find even two experts agree upon a man's mental state, when he is accused of crime, as the very strongest proof that, so far as clinical symptoms go, there has been no definition of insanity as a physical disease. All the scientific world must, and no doubt does, admire the Constitution of the United States of America, that, under it, such latitude was allowed in the trial of Guiteau. But the same world must have observed with regret the testimony given by the majority of the experts. All psychological symptoms, not an attempt made to define insanity as a physical disease. One expert only, as far as I saw, attempted a scientific explanation of the phenomenon on trial, and that was DR. SPITZKA, and he was insulted, most grossly insulted, by the District Attorney, and called a veterinary surgeon because he was a student of morphology and zoology, taking the very best means of all others to enable him to arrive at a scientific conclusion, and, as he himself properly remarked, pursuing the same course as that pursued by such men as Huxley, Hügert, Hæckel, and other men of science such as they. All these facts, however, go to prove our great ignorance as to what is insanity. I have shown, I hope, that morbid pathology and histology have only taught us what is not insanity. Psychology has done something, but only in leading us to look for cause for effect, and Physiology has done the same, and no more. These *as symptoms*, with clinical or pathological symptoms, are actually necessary to lead us to look for cause for effect. But to find out cause we must have recourse to morphological and microscopical anatomy, to animal or organic chemistry, to experimental and pathological physiology; but above all we must study closely clinical pathology (from clinical observations I have formed my views). All these are necessary before we can positively know the physical changes which are taking place which cause insanity.

Our ignorance of these is due to many causes. First, we have been educated to believe mind was something different from, and not dependent upon matter; in fact that insanity was not altogether a physical disease, but something more, something that we could not reach if we would. That we must be very cautious how we touch upon the subject of mind in man, or we might be guilty of *materialism*, a fine word which has been made to do good service, causing many to shrink back in their search after scientific truth.

This idea has, however, lost ground since people began to discover it did not at all follow because a man recognized such a scientific truth as that the mind of man, as we know it, is the product of matter, as we know and define matter, he must necessarily be what these people call materialists, meaning thereby infidels. These people do not recognize that there is potentiality or latent power in matter, or that there can exist in man a self-conscious reason, in virtue of what Dr. T. S. Hunt would call biotic matter.*

We have consequently been taught to believe that consciousness was not of the material order, was not of a brain organ, but something beyond the bounds of scientific research, AND again, as I have already said, we have been led very much astray by the classification

* Since the foregoing was written we have to regret the loss of that great scientist and philosopher, Charles Robert Darwin, to whom the world is indebted for having established that philosophy, to be true must have for its basis or foundation scientific facts, and that science itself to be true must be based on facts, that in all cases facts must precede inferences.

How different and how reasonable the Darwinian philosophy to that of other philosophers, even from that of Descartes, who from his premises was a sound philosopher and logician. But Darwin by changing the basis of philosophy changed the whole system, and made it intelligible and comprehensible.

Descartes said (*cogito ergo sum*): "I think, therefore I am," the converse of which would be, if I do not think, I am not, therefore when I sleep, when under the influence of an anæsthetic, when comatose, when a maniac, I do not think, therefore I am not, which would be an absurdity. Fichte, and apparently Balme, said the explanation of "*Cogito ergo sum*," was "whoever does not exist cannot think," which would be still a greater absurdity, for if there is a *whoever*, he must exist; the very term *whoever* implies person, and person implies existence.

Had Descartes, like Darwin, based his philosophy upon scientific facts, he would have known that as there was in all matter potentiality, so mind was in all things that existed, whether organic matter or otherwise; but that through organic living matter mind was developed. Therefore while the capacity of thinking is to each individual a proof that he exists, existence can be without the capacity of thinking. It is as impossible for us to conceive mind without matter, as for us to conceive matter without mind.

The great Darwin is DEAD, and England has opened its great national temple, Westminster Abbey, to give his remains its last resting place. Wonderful working time! What will the fanatics and bigots say now? These small-minded ridiculers, whom I spoke of in my lecture on Evolution before the Montreal Medico-Chirurgical Society, and which is published in the *Canada Medical Record* for January, 1881, those who called Darwin's philosophy "the gospel of dirt."

Gentlemen, Darwin and his works will be remembered when you are all forgotten.

made of insanity as found in our text books. Having, as I conceive, exhausted the negative, I will now give such positive proofs as I have to offer in support of my theory, that insanity is a physical disease, caused by a pathological defect *in* the sensory nerves and the organ of consciousness, or *of* the sensory nerves or organ of consciousness, and that the pathological defect is due to either mechanical lesion or chemical change of one or more of these anatomical parts; that as a man has but one mind, and it is the product of matter, when that mind is diseased (insane), it is all diseased. So that, when a man is insane he is all insane, there being different degrees or stages of insanity, but no such thing as partial insanity, no different forms of insanity, except we would call mania from mechanical lesion one form, and from chemical change another form. There might be good practical results from recognizing these two forms, because they are founded upon pathological change in mind matter.

I cannot conceive any such thing as functional insanity. To be insanity there must be pathological defect, which cannot take place without organic modification. Neither can I conceive mechanical or chemical change of nerve tissue, or mechanical or chemical change of any tissue, without traumatism. I do not believe in idiopathic insanity any more than I believe in functional insanity. For that matter I believe that all diseases are from traumatic cause. But I am only writing on insanity, and I speak of insanity pure and simple, without being complicated with other diseases. But while ignoring all classification of insanity except these two forms founded upon pathological change of mind matter, I consider it important to recognize stages of insanity, such as acute, sub-acute, and chronic, and the final stage, dementia. Sometimes the acute stage will last for months, and finally the patient recover. Sometimes it is very hard to say where the acute stage becomes sub-acute and then chronic. I have seen cases where the first two stages did not last many days, nay many hours, before the chronic stage set in. And I have very frequently seen the chronic stage change to acute. Now I confess I know of no clinical symptoms by which these different stages can be diagnosticated. I judge of these stages from the psychological symptoms that each stage presents. The clinical symptoms, as far as I have observed, are pretty equal in all stages, insomnia, analgesia and low temperature, but all these symptoms become more marked as the disease advances to its final stage, dementia, with the exception of insomnia. The foregoing clinical symptoms I have so frequently

found are the *first* facts I have to offer as proofs of my theory, that insanity is a physical disease, the result of an abnormal state of the sensory nerves and organ of consciousness.

I have said that I know of no clinical symptoms by which I could diagnose mania in its different stages ; and that it was from the history of the case, and psychological symptoms, that I classified these different stages. But the question has constantly suggested itself to me, can there be mechanical lesion of a sensory nerve or of the organ of consciousness, and such lesion not be followed by inflammation ; or can there be chemical changes in the molecular nerve fluid causing displacement of molecules or atoms or turbidity of the electric fluid, without producing inflammation, whether the morbid changes be the result of poison or otherwise ?

Although changes in tissue must not necessarily cause, or be the result of, inflammation, yet I must confess I find it hard to conceive a nerve lesion not followed by inflammation, but I know of no clinical symptoms that would enable me to diagnose inflammatory action ; yet there may be symptoms that as yet we are ignorant of. Then, on the other hand, it is equally hard to conceive inflammation in attacks of temporary or recurrent mania, and if inflammation was necessary in one case it would be equally necessary in another ; moreover, we know that paralysis can take place without inflammation. The more I have reasoned on this question the more I have found it surrounded with difficulties. If, however, I see a case in the early acute stage of mania, I treat the case as if there were possible inflammation, conceiving if I do err, I err on the safe side. It is at such times, in the early stage, that I recommend perfect repose, hot baths, laxatives and sedatives ; I do not then use electricity or any preparation of strychnine such as *nux vomica*—although in a later stage I use both the one and the other, according to circumstances.

As I have already said, the question of inflammation in any stage of mania is surrounded with difficulties which will only be solved by close clinical observations, for until we have a much more powerful microscope than we now possess, we need not expect much information on that point from pathological examination of the cadaver.

A still more important question is one which has suggested itself to me, and no doubt will also to the reader, and that is, what particular sort of lesion of the sensory nerves renders the electric vital fluid turbid or opaque, causing insanity ? For we know that all nerve

lesions do not cause insanity, or every person the victim of lacerated wounds should become insane.

I do not know what particular description of lesion of the afferent nerve or organ of consciousness causes mania, no more than I know what particular lesion of the efferent nerve causes motor paralysis. But clinical observation shows that in both cases there is paralysis—in one case of the sensory nerves, in another of the motor. Again, we do not know why some lesions of the sensory nerves produce tetanus, the injured nerve directly communicating centripetally with the motor nerve centres in the spinal cord, causing convulsions and death, yet the intellect during life remaining intact,—all these questions are yet to be solved. But my theory is, that the lesion of the afferent nerve that causes insanity, or mania, is due to some change of chemical atoms in the nerve tubes and cells more than to any lesion of nerve fibres, consequently, I am inclined to believe all cases of mania are caused either by chemical change of nerve fluid, as, for example, what is understood as toxic mania, or by some germ, whether generated in the system and finding its way into the nerve cells or tubes, or admitted into those sensitive parts from without. Indeed I see no means of accounting for recurrent mania, or for those periodical attacks of mania, when the patient is for a short time a violent maniac and is suddenly restored, for a time, to a perfect state of intelligence, except by recognizing the germ theory; and as the germ theory in all other diseases is now so well established, particularly in tubercles of the lungs, I see no reason why we should not recognize the germ theory, that is, germs in the nerve cells or tubes, as one great cause of insanity. It requires no very great stretch of our imagination to conceive a germ in the fluid of the afferent nerves propelled by molecular motion to the organ of consciousness, and, while remaining in that organ, producing violent mania, said mania subsiding when the germ by the same process becomes removed from the organ of consciousness. Thus could we easily account for periodic or recurrent mania, each attack depending on one of these germs in the organ of consciousness; thus could we account for lapses of consciousness and intellectual confusion, which is insanity. On the other hand those cases of mania that run their course either to recovery or dementia or death, without periodical changes, we might well assume to be of a toxic nature, producing chemical changes such as I have spoken of in the sensory nerves and organ of consciousness, whether that poison was anæsthetics taken by the mouth, such as whiskey, etc., or by respira-

tion, such as chloroform, etc.; or that the poison was due to some atmospheric materia morbi or to some electro-magnetic influence, matters not, it would be toxic mania, the mania caused by chemical change in the electro-motor nerve fluid, the mania disappearing as the nerve fluid becomes restored to its normal pellucid consistency.

This being my theory, I maintain that all cases of mania, if not all other diseases, are due to traumatism, but that some persons are so constituted, or from some cause, such as suffering, so predisposed, that they are perhaps more liable to become insane from these causes than are others; yet holding the theory of insanity that I hold, I maintain that no person can claim exemption from insanity. I regret, from the position I now hold, I am debarred from the opportunities so necessary to investigate more closely into all these points; I hope, however, that some of my confreres will apply themselves to such an investigation. Secondly, I observed that a drunken man by his conduct, his psychological and physiological symptoms, gave proof that he was insane, and that he passed through three stages of insanity, acute, subacute and dementia. That this mania was toxic mania, the result of an anæsthetic taken into the stomach, and that his clinical symptoms were insomnia, at least in the first two stages, and in all the stages, analgesia and low temperature. Again, the temporary paralysis of the drunken man I found similar to the temporary paralysis very frequently found in the insane, and I concluded both were from the same cause,—paralysis first of the peripheral sensory nerves, which go to the motor centres in the cord, producing a like effect on the motor nerves, or irritation of the peripheral sensory nerves, which causes either paralysis of the motor or convulsions by reflex action. Thirdly, I had observed, and have had my observations confirmed by the observations of others, particularly by Lyman in his valuable work on artificial anæsthesia, that during artificial anæsthesia, whether from chloroform, ether, etc., the anæsthetized person was rendered temporarily insane, and passed through the same three stages of insanity. Fourthly, I have found a fall of *temperature* in all cases of insanity where there was no complication, and that as the different stages advanced the lower became the temperature. I have found the same phenomena in the drunken man, and Lyman has found it in the temporary insanity produced by anæsthetics. But it may be said, might not this temperature be caused by the heart's action, and have nothing whatever to do with the sensory nerves? I don't think so, for the following reasons: I have found analgesia and low tempertaure

where the pulse was accelerated, and equally so where the pulse was normal, where respiration was accelerated and where respiration was normal, where digestion was normal and where it was abnormal, where pupils were normal and where they were abnormal, where locomotion was normal and where it was abnormal. From all these facts I concluded that in insanity external low temperature and external analgesia were due to pathological changes of the sensory nerves.

Low temperature in the insane where there is no complication is now no longer a theory, but is recognized as an established fact, particularly since the appearance of Charcot's published lectures on the diseases of old age, although I was laughed at when I declared it a symptom of insanity in the trial of Hayvern.

The following cases, taken from my note book, will elucidate my views :

No. 1.—J. N., aged 26.—Well nourished, greatly excited—mania acute.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 100—Axillary temperature 96.

No. 2.—J. R., aged 50.—Well nourished, not much excited, *jealous*, impotent—subacute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 104—Temperature, 97.

No. 3.—M. B., aged 63.—Had been an inebriate in his youth, loss of memory, early stage of paresis,—says he knows he is becoming insane. Pupils normal, respiration normal, digestion normal, well nourished—chronic mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 90—Temperature, 95—4.5.

No. 4.—Mrs. A., aged 24.—Well nourished, of a suicidal tendency—subacute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 80—Temperature, 97—2.5.

No. 5.—Madame J. L., aged 25.—Nursing, well nourished, suicidal—subacute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 90—Temperature, 98.

No. 6. Miss A. B., aged 23.—Well nourished, much excited, very uncontrol able, delirious—acute mania in a hysterical girl.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 120—Temperature, 97—4.5.

No. 7.—W. B., aged 46.—Well nourished, bad history, sister died insane, brother hung himself. Has suicidal desire—subacute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 90—Temperature, 98.

No. 8.—L. C., aged 26.—Had been an inebriate up to the last two years, had two fits, were told they were epileptic, remembers nothing of them. Drank no liquors for the time mentioned, feels he is going mad.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 90—Temperature, 97—3.5.

No. 9.—Miss M., aged 34.—Body well nourished, melancholic mania in a hysterical girl.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 120—Temperature, 97.

No. 10.—Mrs. G., aged 39.—Badly nourished, very excitable, prognosive paresis—chronic mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 90—Temperature, 97.

No. 11.—D. L., aged 24.—Fairly well nourished, very much excited—acute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 110—Temperature, 97—

1.5.

No. 12.—P. M., aged 18.—Badly nourished, greatly excited—acute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 100—Temperature, 97.

No. 13.—Miss M., aged 40.—Well nourished, loss of memory, cannot collect her thoughts, always feels cold, is suspicious and unhappy, not excitable—subacute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 80—Temperature, 96.

The following are cases in asylum :

No. 14.—M. C., aged 23.—In asylum three years.—Fairly well nourished—subacute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 100—Temperature, 96.

No. 15.—M. C., aged 34.—In asylum four months. Moderately nourished—acute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 110—Temperature, 98.

No. 16.—D. P., aged 24.—Well developed and well nourished girl. In asylum six months—acute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 110—Temperature, 96.

No. 17.—J. M., aged 35.—Well nurtured. In asylum four days. Second admission. Acute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 80—Temperature, 98.

No. 18.—S. A., aged, she says, 103—looks it. Dementia.

Clinical symptoms.—Insomnia—Pulse, 110—Temperature, 96.

No. 19.—A. J., aged 25.—A well developed young girl. In asylum two days. Very excited. Had been three months in prison. Acute mania.

Clinical symptoms.—Insomnia.—Analgesia—Pulse, 110—Temperature, 98.

No. 20.—Miss P., aged 20.—Well nourished, very excited, violent and noisy. In asylum one month. Acute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 120—Temperature, 97—

2.5.

No. 21.—Miss G., aged 20.—Badly nourished, yet general health good. In asylum two years. Very quiet—chronic mania.

Clinical symptoms—Analgesia—Pulse, 80—Temperature, 97—4.5.

No. 22.—Miss D., aged 22.—Well nourished. In asylum two months. Very violent and excitable—acute mania.

Clinical symptoms.—Insomnia—Analgesia—Pulse, 120—Temperature, 97—

4.5.

No. 23.—Miss B., aged 22.—Her mother insane since the girl was born. Girl in asylum two years. When admitted was a well looking girl, suffering from a

subacute mania. Never could make any clinical examination till now, when she is literally dying.

Clinical symptoms.—*Pulse, 120—Temperature, 102—2.5.

From the twenty-three foregoing cases, it will be seen that none were imbeciles. All were cases of insanity from pathological defect, as I considered these the proper cases to prove or disprove my theory. I have the record of many other cases with similar results. But from these alone I think I have the right to assume that low temperature is a clinical symptom of insanity, and that the fall of temperature is due to the abnormal state of the sensory nerves.

But the question is by no means settled whether temperature, under any circumstances, is due to cardiac action and not to the sensory nerves. I consider temperature dependent upon the latter for many reasons. First. The properties of life are not in the vegetative but the animal system, and one of the properties of life in the animal is heat. Secondly. From the fact that, in the insane, we find low temperature where there is increased cardiac and normal cardiac action. Thirdly. That where there is extensive ulceration of the integuments surrounding the leg, there is low temperature below the ulcerated part, although no defect in circulation. Fourthly. That certain medicines, such as quinine and whiskey, in large doses, diminish temperature without diminishing cardiac action.

According to Charcot, strong black coffee and tea increase animal heat. I have proved this to be the case without increasing heart's action, and, according to Professor Charcot, both central and external alidity can exist, and temperature can be increased, quite independent of the action of the heart. Charcot says: "Magendie has proved by experiments which Claude Bernard has confirmed that all severe irritation of the peripheral nerves has the effect of lowering cardiac pressure, which according to Mentigazza diminishes central temperature." Now, it is a well-known fact that all severe irritation of the peripheral nerves, such as scalds, burns, laceration of the integuments, severe flogging, etc., cause fall of temperature, sometimes even to collapse, and also a lowering of cardiac pressure, but I fail to see the sense of Mentigazza's conclusions, that the diminished temperature was in any way the result of lowering of cardiac pressure. The old theory that the blood was the animal life is now exploded, thanks to the researches of Boer and Hæckel, and the

* When I speak of acute and subacute mania, I mean stages of mania and all temperature below 98—2.5, abnormal or low temperature.

scientific fact has been established that animal life is in the nervous system, consequently animal heat ; and that the blood is the reproductive fluid of the body. In *Brain*, Vol. IV., page 398, "Dr. Maclagan argues that there is a special thermic centre high up in the cord, controlling and regulating the temperature of the body ; that this centre is endowed with heat-producing and heat inhibitory powers ; that it has intimate physiological and anatomical relations with other important centres ; that it has connected with it a special set of thermal nerves, distinct from the ordinary nerves of sensation, that these nerves are very freely distributed to the skin." Dr. Maclagan may be right, and even if he is, it does not affect my theory of insanity that it is due to an anæsthetic state of the sensory nerves and organs of consciousness, and that where there is cutaneous analgesia there is cutaneous algidity. Admitting his theory, it is only another proof that the temperature is dependent upon the nervous not on the circulating system.

In the *Journal of Science* for March, 1882, there is an article, the "Distinctions between Organisms and Minerals," from which I quote in support of my views of morphology and temperature : "If we examine the intimate structure of the plants or the animal, we find tubes sometimes hollow, sometimes containing a fluid, or sometimes a solid matter, differing in its nature from the enclosing walls ; we find also round or oval vesicles known as cellules, and generally containing fluid matter."....."It may here be well to remark, for the benefit of such readers as are not conversant with modern biochemical research, that protoplasm is not an abstract idea or a mere theoretical body. It is a substance which can be obtained from certain plants, *i. e.* *Ethalium Septicum*, and submitted to the investigations of the chemist and the microscopist. The idea was taken up by H. H. O. Lowe and Thomas Bokorný of Munich. The former of those chemists in establishing a rational formula for albumen was struck by the circumstance that it contained a number of aldehyde groups immediately bordering upon amide groups. Such groups, according to modern chemical philosophy, must be distinguished by intense atomic motion. Hence argued Herr Loew, this motion constitutes life, whilst the respective displacement of the aldehyde and amide groups, and the necessary cessation of the atomic motion involves death, it may be of a mere molecule or protoplasm, or of a large portion, or of the entire animal or plant.....Apparently trifling agencies displace the molecules and their action ceases.

During every such molecular displacement, which is in fact a combustion, heat is liberated. Hence the rise of temperature in fevers and that which occurs upon death. On the other hand, when lifeless albumen is assimilated, and converted into the protoplasm of a living cell, heat becomes latent."

The reader will perceive from my standpoint, clinical observations, that I arrived at the same conclusions, with regard to life, death, and temperature, as does Herr Loew and Bokorny of Munich from chemical observations. I said that life and heat were dependent upon molecular or atomic motion, and that the arrest of this motion was the cause of death, at least in insanity proper, consequently pathologists could not demonstrate the cause of death from examination of the cadaver.

Fifthly. I have found in all cases of insanity that there was to a greater or lesser degree loss of consciousness, or rather confusion or lapse of consciousness, which I attribute to the pathological state of the sensory nerves and organ of consciousness.

Sixthly. As a general rule, I have found insomnia to be a marked symptom of insanity, indeed I consider insane persons in a kind of half sleep, so we find those insane persons who don't take two hours sleep in the twenty-four insisting they sleep the whole night, and frequently during the day. This state of insomnia I also attribute to the pathological state of the organ of consciousness and sensory nerves.

Recapitulation :—I define insanity to be a physical disease caused by a pathological change in the sensory nerves and organ of consciousness, or either, consequently loss of consciousness, increased reflex action, confusion of intellect, loss of intellect, necessarily loss of normal reason, insanity. From the same state of these organs we have low temperature and insomnia. So far then I have shown cause for effect in the clinical symptoms I have found in the insane, at least, I conceive I have ; and now can fairly assume that all the physiological and psychological symptoms observable in the insane may be attributed to these physical changes in a man's mental organization. When we remember that the motor nerves of the face take their origin from the highest source of our intellectual organization, and that this organization is no longer capable of sending messages through these nerves, or if at all so, false intelligence or still more probable that their actions become reflex, we know the anatomical cause for the physiological changes that are so marked in the features of the maniac ; a change so

great, a stamp of insanity so clear, as to be sufficient to satisfy the experienced alienists that the person is insane without further examination. Yet remarkable as it is, it is impossible artistically to describe. It must be seen to be known. A Michael Angelo or a Raphael might represent the physiological features of the insane, but I cannot find words to describe them; yet in insanity as in sanity, the ruling passions are indelibly stamped on the human face, if we only learn to read them.

Various as are the physiological and psychological changes and symptoms in the insane, they are not more various than the difference recognised between men not insane, all depending upon the changes taking place in the mental organization.

After all that has been said and written upon the various *forms* of insanity, and the classifications from extraneous causes and psychological symptoms, the monomaniacs, the partial insanities, the moral and intellectual insanities, it all comes to this, according to my theory, that all are insane from the same physical cause, viz., an abnormal or pathological state of the organ of consciousness and the sensory nerves, and that all the different physiological and psychological symptoms, no matter how they differ in different individuals, are due to this anatomical cause, this pathological change which causes lapse of consciousness, consequently the actions of the insane are chiefly reflex. When man's mental organization is normal, his mind is sane, his desires are sane, his instincts and impulses are sane, and consequently his conduct is sane.

When a man's mental organization is abnormal, his mind is insane, his desires are insane, his impulses and instincts are insane, and consequently his conduct is insane. And, as a rule, all the desires, instincts and impulses of an insane man are exactly the contrary of a sane man, and he proves these facts by his *conduct*—he has no will, properly speaking. Next to man perhaps the dog is the most intelligent animal. When it becomes insane it portrays its insanity by its conduct. Both man and dog when insane become suspicious of their best friends, and turn upon them to rend them. The dog's master knows the dog is mad from its conduct, because its conduct is at variance with the dog's habitual conduct. As with the dog so with the man. We judge of the sanity of the latter also by his conduct, knowing that his conduct is the outcome of his mental organization, and that it gives evidence of what that organization is. Therefore, when we see a man living in breach of all the natural and social laws by which society is governed and kept together, we naturally conclude

that such a man is either imbecile or insane. In the former case he is what he is in virtue of teratological defect in his mental organization, in the latter case he is what he is in virtue of pathological defect in his mental organization. In either case, he is an irresponsible creature, because of his abnormal mental organization ; a man not fit to live in society ; a man from whom society should be protected ; and a man that society should protect from himself.

Insane desires are very variable. One man's desire is for drink, another is to commit murder, another is suicide, another is to set fire to buildings, another has perverted sexual desire—all the result of an abnormal mental organization and consequent reflex action. Some of those insane and imbecile persons will know the nature of their act, know right from wrong ; they will tell you they know they have done wrong, but that they could not help it. Their cry is, "*volo non valeo*," they have no freedom of the will.

The reader will understand that I fully recognize the fact that any organic disease of the substance of the brain or its membranes, or its vessels, or of the cavity of the cranium, can by pressing upon the organ of consciousness produce insanity, but in these cases the insanity is the symptom of another disease, but is caused by the injury to the organ of consciousness ; this would be insanity complicated with other diseases. Thus I explain what is termed the general paralysis of the insane, which according to Dr. Mendel is atrophy of the brain ; the same diseased state of the brain causes the paralysis of the organ of consciousness and the motor nerves. But there are a great many cases of insanity where there is paraplegia, yet there is no organic disease of the brain ; and the only connection between the insanity and the paraplegia is that the same abnormal state of the sensory nerves which causes the abnormal state of the organ of consciousness causes a similar state of the motor centres in the spinal cord, which they pierce directly without taking a course through the organ of consciousness. Thus do we account for the unconscious reflex action in the lower extremities in cases of insanity. Many insane persons die in convulsions, particularly those in whom the cause of the traumatic state of the sensory nerves was poison, such as alcohol or hydrophobic poison. Insanity may be complicated with any other disease. Having disease of any organ does not exempt a person from the disease which causes insanity. For example, all epileptics and hysterical persons are not necessarily insane, but they are certainly predisposed to insanity, and we frequently find those persons subject to fits of

recurrent mania. So much is this the case that all writers speak of epileptic mania and hysterical mania as distinct forms of insanity, and this purely from psychological symptoms. Now, I do not see that there is necessarily any connection between insanity and epilepsy; more than this, that the nerve explosion which would otherwise culminate in a convulsive fit culminates in an impulsive act in those who are already insane. No doubt the psychological symptoms of an insane epileptic differ in many respects from those of other insane persons, but not more than should have been expected from the abnormal physical condition of an epileptic. The same may be said of an hysterical person who most undoubtedly suffers from pathological changes in some nerve tissues, although we do not see these changes. What I wish to point out is this, that although hysterical patients and epileptics are persons evidently predisposed to insanity, and when insane exhibit peculiar physiological and psychological symptoms, yet epilepsy and hysteria are diseases distinct from insanity, and do not result from the same pathological cause or defect in the nervous system or mental organization. But, in reality, we hardly ever find two insane persons presenting the same psychological symptoms as I have already said more than once, but the most dangerous, because the most impulsive, of all maniacs is the maniacal epileptic. In a letter received from Dr. Kiernan, editor of the *Chicago Medical Review*, he propounded to me the following question with regard to Hayvern: "Was the patient's face asymmetrical, and was it that which led you to suspect possible epilepsy?" The foregoing question led me to make a special examination of the faces of fifty-three (53) maniacal epileptics; of these twenty-three were females, out of which fifteen had the asymmetrical faces, the remaining eight nothing remarkable. Then there were thirty males, all maniacal epileptics; of these twenty-five had the asymmetrical face, the remaining five nothing remarkable. From the foregoing facts I feel satisfied that the asymmetrical face is sometimes a most important physiological symptom in the maniacal epileptic. I remarked in every case that the contour of the face seemed to deviate towards the right side from the mesian line, leaving the left side apparently flattened. Now for this physiological effect there must be cause; it must be due to some abnormal state of the facial nerves at their centre, and this should lead pathologists to search in the regions of those centres for the cause of epilepsy. I sincerely thank Dr. Kiernan for drawing my attention to this physiological symptom in cases of epilepsy, and for the honorable

and scientific manner in which he reviewed the evidence given in the case of the unfortunate man Hayvern. I also render my most grateful thanks to Dr. D. Hack Tuke, editor of the *Journal of Mental Science*, for his more than kind remarks in that journal on the Hayvern case.* I have endeavored to explain the physical cause, the pathological defects, for the physiological effect insanity.

I shall now consider what are the predisposing and direct causes producing the anatomical change. There is no doubt but some are more predisposed to this disease than others. For example, it is impossible, with the examples we have before us, to ignore hereditary taint, a hereditary predisposition, yet there are hundreds of cases where we can trace no heredity, consequently there must be many persons predisposed without heredity. St. George Mivart says, "No one thing can act on any other except that in such other there is an innate capacity of being acted on." Now, accepting this physical truism, we must recognize that there must be a predisposition, perhaps, in all men, but certainly more in some than others, to insanity. If we divide society into three classes, that is from an intellectual standpoint, we may designate them as follows, the imbecile class, the criminal class, and the intellectual class, taking my definition of an intellectual man. Now, according to my theory, the imbecile and criminal class are the result of teratological defect, the intellectual are so because of their normal mental organization. These are certainly three distinct classes. Now, judging by our asylums, there is no doubt but that the imbecile class are the most likely to become insane, next the criminal class, and lastly the intellectual class. Why is this? Simply because the imbecile and criminal classes have already defective physical mental organization, whether that defective state be due to defective convolutions, according to Bendikt, or to asymmetries,

* I received a letter from Dr. Kiernan, bearing date May 19th, 1882, in which the following occurs: "A notice of my article in the *Chicago Medical Review*, on the Hayvern case, appears in the *Centralblatt für nervenheilkunde*, May 1, 1882, page 2, vol. 7, in which Dr. Voigt takes the ground that Hayvern was an epileptic, and cites the following old observation about epileptic insanity, which is something new to me, from Paul Zacchias (Quest. med. legal, Tome III., cons. 27, n. 7, 8. Frankfurt, 1688): *Epileptici gravi morbo occasione tentati ante occasionem et post occasionem per aliquot dies extra mentem sunt.*"

"July 5, 1882, Dr. Mendel's *Centralblatt* takes the same ground as you did in the Hayvern case, and regards him as an epileptic. G. J. KIERNAN."

So England, Germany and America have supported my diagnosis made in the case of the unfortunate Hayvern.

according to many other physiologists, particularly Dr. Spitzka. The fact is then that as in the imbecile class, so in the criminal class, there is cerebral defect which must predispose such persons to insanity.*

* In the *Journal of Mental Science*, Vol. XXV., page 119, there occurs the following: "*A New Type of Insanity*. At a meeting of the Verin of German physicians, who occupy themselves with the treatment of insanity, held at Nuremberg, in Sept., 1877, there was a good deal of debating about the different forms of insanity, and the following resolution proposed by Dr. Meynerte, was unanimously adopted: "The members of the Verin of Psychiatrie agree in recognizing besides melancholia and mania a third original form of mental disease, primary craziness or insanity (*premäre verücktheit*), what Tigges described as *Walsium*."

As it would not do to treat with disrespect this creation of so many learned physicians, it is incumbent on me to introduce our new friend to English readers as he is exhibited in the *Psychiatrisches Centralblatt* for December, 1877:

"In these subjects there is a hereditary neurotic tendency, and something strange about the disposition from infancy. They are quiet, soft children, the delight of their mothers, and at a later time their bitterest sorrow; they shun the society of other children and indulge in day dreams; their bodily growth is normal, but even trifling diseases take in cerebral symptoms. Some of them towards the end of the period of development have illusions or hallucinations of the senses, indulge in false ideas and sink rapidly into mental weakness; others reach their twentieth year without any marked derangement.

They may show talent in special directions, but their intelligence never passes out of the puerile stage.

They become morbidly sensitive; often they brood over some feminine ideal, generally a girl with whom perhaps they have never exchanged a word, though fancying they have tokens of encouragement; they are apt to endeavor to attract the attention of others by an affected carriage; they want energy to resist bold opposition, though they get rapidly into a state of theatrical exaltation, spasmodic weeping and hysterical fits; there is a greater or lesser degree of hypochondria.

They are always thinking of the conduct of strangers towards them, hear their names called in the streets, find reference to themselves in everything, and notice allusions to their doings in the newspapers. A young man of this sort imagines that a secret society persecutes him because he is in their way, not because he is unworthy and deserves punishment, as a melancholia would put it.

The friends of the object of his affections puts impediments in his way, slander and persecute him, on which account his own family look upon him with dislike; often he disguises his feelings, his conduct passes as incomprehensible eccentricity, and from his softness of disposition violent outbursts are rare, though sometimes an accident brings out the morbid condition. At a later time illusions of the senses falsify the whole relations of the patient with the outer world: this or that person of distinction has looked at him in a meaning manner; a portrait of the ruling prince resembles him; every change in the outer world has something to do with him; political events, natural appearances and calamities are sent to punish his

But we find amongst persons of ordinary intelligence persons of an ordinary physical mental organization, that some are more predisposed to insanity than others. How can we account for this? It is very hard to say, except that some people suffer more than others; not that they have more cause of suffering than others, but that what would not cause much suffering in others would cause great suffering in them, because of their being more highly organized. St. George Mivart says, "But even in men and women, suffering depends *mainly* on the mental state of the sufferer. Only during consciousness does it exist at all, and only in the most highly *organized* men does it reach its acme." This being a scientific fact, we can very well believe that whatever causes great suffering to highly organized persons may not only predispose

persecutors, or serve for his final triumph; God Almighty takes him under his protection, and has a blessed mission in store for him; people have had dealings with him under other names.

The progress of the disease is gradual: sometimes symptoms take a lull, again suddenly to break out; sometimes the lunatics are very shy of bringing out their delusions, which are only shown in some unwonted state of excitement."

"Dr. Meynert remarks that this form of alienation is not confined to males alone, and Dr. Fritsch (*Psychiatrisches Centralblatt*, Oct., 1877) gives an example of it in a woman who had been married although the vagina ended in a blind sack, and she was believed to have neither uterus nor ovaries. The woman had undoubted sexual feelings, which indeed were very marked, was hysterical, and had the delusion of suspicion."

"Any physician of experience must know cases which might very well be included under this new form. It cannot be confounded with mania or dementia, and is distinguished from melancholia by the conceited deportment of the patient, and his want of self-accusation or depreciation as well as by the character of the delusions. Primary insanity may be combined with imbecility. It would appear that in Vienna asylums the cases classed under this new type were as numerous as those of mania and melancholia put together. Often it remains in the initial stage or retrocedes, and the patient never reaches an asylum."

This so-called primary insanity is nothing more or less than what I call insanity in an imbecile, in other words pathological change taking place where teratological defect already existed, consequently there are more of these cases to be found in every insane asylum as well as the asylums of Vienna. I cannot conceive why wonder should be expressed in the case of the woman referred to. Sexual desire don't exist in the organs of generation in either man or woman.

All desire is centered in the brain, irritating or stimulating certain peripheral nerves in certain portions of the body; the female breast, for example, excites sexual desire in the organ of desire, and the effect is developed in the sexual organs through the efferent nerves. I have found impotent men as well as sterile women having strong sexual desire.

them to become insane, but such suffering may be the cause of insanity, as we suffer in virtue of our sensory nerves and organ of consciousness and the suffering, or its cause, will probably cause normal molecular motion to become abnormal.

Now, if I am correct that suffering, if not an actual cause of insanity, predisposes a person to become insane, it can be easily understood that, after the imbecile and criminal classes, insanity is more frequently found amongst the poor than the affluent, speaking socially.

We have so many evidences of insanity from poison that it would be absurd to ignore the fact. The examples of alcohol, opium, syphilis, hydrophobia, puerperal mania, and the different anæsthetics that produce temporary insanity and sometimes more, are all sufficient proofs of what is called toxic mania, that is, the physical changes that I have described as causing insanity have resulted from poison traumatism, and this being the case I see no reason why some *atmospheric materia morbi*, some specific poison, some pathogenic germ, should not be a *cause* of producing this abnormal state of the sensory nerves and organ of consciousness, which is the cause of insanity, any more than that it should produce any other physical change in animal organisms. We know there is a link between the organic and the inorganic world, an affinity which in all probability is chemical, and to this fact may be due that at one time and in one place we are more susceptible of atmospheric influences than at another time and in another place. I have constantly remarked how that at different times there will be a rush into the asylum from some particular locality. We also know that some persons never get good health in some localities, while they get the best of health in others. This must be due to some atmospheric influence, or possibly geological influence from electro-magnetic cause, and seeing the chemical affinity known to exist between organisms and minerals, or between organic and inorganic matter, I don't consider we have paid sufficient attention to possible geological influences upon health and disease.

While I recognize the great importance of physiological and psychological symptoms in enabling us to diagnose insanity, I only consider such symptoms as the effect of pathological cause, and when I find another group of clinical symptoms in an insane person other than those I have enumerated, I do not attribute the insanity in any degree to the causes of those other symptoms, any more than I consider the case is complicated with other diseases or some other disease. It is in these complicated cases where there is pyrexia, which

is not a symptom of insanity, that we will not find maniacal or low temperature.

Of course it is hardly possible to conceive any one continuing in a state of insanity from these physical changes for any length of time without other complications making their appearance. I said three orders of motion were necessary for normal animal existence, viz., molecular, mechanical and chemical. It is wonderful, however, how long vegetative life will continue in man, even after the intellectual organs have become completely wrecked. We can only suppose that, in these cases, after the vital electric fluid has come to a certain stage of opacity it remains so, till suddenly, perhaps after years, it changes, coagulation sets in, and this is followed by death. On the other hand, we sometimes see death come very suddenly to the insane, when it may be assumed that the morbid state of the vital fluid runs its course rapidly ending in coagulation and consequent death, from the arrest of atomic or molecular motion. I am speaking of a person who dies from insanity; of course an insane, as well as a sane, person can die from other diseases. I presume, however, that death from insanity is due to the coagulation of the vital nerve fluid, as I assume sudden death from artificial anesthesia to be due to the same cause. But this naturally transparent fluid passes through many stages of opacity before it arrives at the coagulating stage; and my theory is that the different degrees or stages of insanity, from acute mania to dementia, are due to the different degrees of opacity which this fluid undergoes, and the greater the degree of diminished pellucidity, the greater the degree of insanity, because the greater the loss of vital or atomic molecular motion. Du Bois Raymond found by experiments upon electric fishes that the vital fluid in the nerve cells could be rendered gelatinous by either chemical or mechanical injury, causing loss of electricity or vital force, consequently there is no reason why mechanical lesion or chemical injury should not produce a similar change in the vital fluid generated in the nerve cells of man.

In all I have written I have endeavored to show cause for effect, and from the morphological, anatomical, physiological, psychological, pathological and biological facts which I have set forth I consider that I am justified in drawing the following conclusions:

Firstly. That body and mind are one, that is, that the mind of man, as we know it, is the product of matter, as we know and define matter.

Secondly. That insanity is abnormal mind, the consequence of abnormal matter—therefore, a purely physical disease.

Thirdly. That the matter abnormal is the sensory nerves and organ of consciousness.

Fourthly. That these parts are rendered morbid directly, either by mechanical lesion or chemical change, which renders the electric vital fluid opaque, and thereby molecular motion is arrested to a greater or lesser degree, consequently there is analgeria or anesthesia of the organ of consciousness and the sensory nerves.

Fifthly. That while recognizing in many an hereditary predisposition to insanity, yet, from observation, I am satisfied that *physical* suffering is not only a predisposing, but an actual cause, of rendering the organ of consciousness and the sensory nerves abnormal, and is thereby an actual cause of insanity.

Sixthly. That it being an established fact that toxica is capable of rendering the organ of consciousness and the sensory nerves abnormal, as heretofore explained, I believe one cause of toxica to be due to some atmospheric *materies morbi*, some specific poison, some pathogenic germ.

Seventhly. That as man's mind is a unit, and when insane it is all insane, not in part but wholly; consequently, although insanity differs in degree, there is no such thing as partial insanity.

Eighthly. That the physiological symptoms and effects of insanity are merely the result of anatomical cause, consequently an insane man is not responsible for his acts.

Ninthly. That every normal man has under certain circumstances a free will, but every intellectual man, according to my definition of an intellectual man, has a free will by which he controls all his desires, consequently such a man would not, if he could, and could not, because he would not, be guilty of a crime against society. Before he could be a criminal there must be a physical change in his mental organization, rendering him insane, and consequently irresponsible for his acts.*

* This question of a free will in man is an all-important question. No intelligent man can possibly believe that a man's will is always free, where we see the number of persons whose whole lives have been controlled by the will of others, or by habit or circumstances, which deprived them of all will, so that they became mere automatons. Who if he had a free will would ever allow memory to haunt him, thinking of a thousand things of the past that render him unhappy and miserable. Who if he had a free will would not prefer to think of the pure and the good to the vile and evil. Most certainly we cannot always govern our thoughts by our will,

Tenthly. That idiots, imbeciles and habitual criminals are such in virtue of abnormal defective mental organizations, as the insane criminals are such in virtue of pathological defect in their mental organization. How far such persons should be held legally responsible for their crimes I leave to our law makers to decide. Let them take the responsibility. I am sure, however, that for their own sake and for the sake of society such creatures should be entirely separated from society, and, judging from the past, I think I am justified in assuming that the fear of punishment as it has not in the past, neither will it in the future, prevent such persons from the commission of crime. And here I might ask the question ; does the fear of punishment act as a preventative to crime in any person ? This is a hard question to answer, and answer it correctly ; answer it not in the flippant manner that some answer it without considering what they are saying when they answer : " Of course, it prevents crime." But ask such persons for proof and they can give none. Ask such a person, are non-criminals such because they fear punishment, and they have no answer to give, because if they answered in the affirmative they would be admitting that they themselves were non-criminal because they feared punishment. Seeing, however, that so many persons commit crime who are not idiots, imbeciles, insane or yet habitual criminals, it would lead us to believe that the fear of punishment does not prevent crime, yet I would not say positively that there are not some criminally disposed, we might call them a semi-criminal class, persons so constituted that they would be criminals only for fear of punishment, but I do sincerely believe that the large majority of the non-criminal class are such because they prefer right to wrong, and that they have a higher motive for abstaining from crime than the fear of punishment. If ever any means had a fair trial for the prevention of crime it has been punishment, with what effect criminal history can answer.

Eleventhly. I consider from the foregoing I have a right to assume that the physiological symptoms of insanity differ in each individual as every individual differs one from another, each exhibiting his peculiar characteristics when mind is free from the control of the will and its actions are purely from reflex stimuli, and thus we account and it is equally certain that we cannot by our will govern our desires, words and deeds.

Mere children have no will, yet we in our folly treat them as if they had. A man with a really free will must be a man of an extraordinary mental organization.

for hallucinations, illusions and delusions. (See note on Instinct, page 24.)

Twelfthly. That what is termed epileptic and hysterical mania, would be more properly expressed as mania in an epileptic or in an hysterical person, and that mania paralytica should be understood to mean mania and paralysis from the same cause—organic disease of the brain extending to the organ of consciousness and motor centres in the brain and cord. That in all other cases it should be mania with paralysis.

Thirteenthly. As the mania of authors is only a psychological symptom of insanity, and not a form, I think the term would be better abolished, but as this would be difficult, the terms mania and insanity should be synonymous.

Fourteenthly. As idiots, imbeciles and habitual criminals are subject to attacks of insanity, the epileptic imbecile for example, I think it is better we should look upon them as a distinct anthropological variety of their species, subject to attacks of insanity like unto the intellectual man, differing only in so far as to render them, if possible, more impulsive and more dangerous than they otherwise would be. To make insanity the more clearly comprehensible as a physical disease, I consider this is preferable to speaking of the idiot and imbecile as the congenital insane. With my views of insanity, the term congenital insanity would cause confusion in the mind of the reader, and my object is to simplify the subject.

Fifteenthly.—That our treatment of insanity should be directed towards restoring the sensory nerves to their normal state, and not to the treatment of the symptoms. There is a loss of vital nerve force which we must try to recuperate, and the best treatment I have found to produce this desired effect has been good nutritious food, rest, pure air and moderate exercise, and to avoid all medicines that might possibly derange the digestive organs.

From experience, I have great faith in percutaneous treatment, such as hot mustard baths, electro-magnetic stimuli, mechanical stimuli, friction of the skin with brushes and coarse towels, mechanico-chemical stimuli, rubbing the whole body, particularly along the sensory tract, with stimulating sedative liniments and antiseptic liniments, generally containing carbolic acid.

When I want to have the bowels relaxed, I use enemata, and if there is hysteria I give a good dose of assafoetida in the enema. I have found benefit from arsenic, whether as a tonic or a specific or alter-

ative I do not know. Of course when I have reason to suspect syphilitic poison I give a specific, such as iodide of potassium, which I have found to be the most effectual medicine. But I know of no specific treatment for restoring the abnormal sensory nerves and organ of consciousness. I try, as far as I can, to treat insanity upon scientific principles, keeping always in view what I consider the cause for the effect. I never administer hypnotics or narcotics. I have never seen any benefit from opium or chloral, but the very contrary. But I have had wonderfully good effects from electro-magnetism. I consider, if there is a specific, it has a specific action in restoring molecular motion and nerve force. But we have much yet to learn of how electricity and electro-magnetism acts upon animal organism. Perhaps it is in the affinity that is known to exist in electric molecules or atoms. I have to the best of my ability endeavored to give a rational materialistic definition of insanity, basing my theory upon clinical observations in the insane, and upon the anatomy and physiology of man as far as we know it, calling to my aid the sciences of morphology, zoology and biology.

I have endeavored to show that for all physiological effects in man there must be anatomical cause. That mind in man, as we know it, is the physiological effect of matter, and that mind insane is the effect of pathological matter: that mind is a *unit*, and when insane is all insane: that consequently there is no such thing as partial insanity, but that there are different degrees of insanity. I have also endeavored to show that the different classifications of insanity as found in our text-books have not only not been of any practical benefit, but the very contrary, causing confusion and conveying a wrong idea of what insanity is, and I consider a very great evil has thereby resulted to the advancement of mental science. If we were to divide and subdivide insanity from the different psychological symptoms that we find in the insane, every insane person would present a different form of insanity, for every insane person has different psychological symptoms, simply because no two *sane* persons in the world think exactly alike on matters involving sentiment or prejudice, though both would agree that 2 and 2 make 4, consequently no two *insane* persons think alike if they think at all; therefore the difference in psychological symptoms.

As I began, so do I conclude, by stating that in my attempt to define insanity I have only presumed to advance a theory, not to demonstrate a fact.

My next chapter will be upon legal criminality and responsibility, treating the subject from my views of insanity and imbecility.

RELATIVE TEMPERATURE.

FAHRENHEIT AND CENTIGRADE SCALES.

<i>Fahr.</i>	<i>Cent.</i>	<i>Fahr.</i>	<i>Cent.</i>
86.....	30	99.....	$37\frac{5}{9}$
87.....	$30\frac{5}{9}$	100.....	$37\frac{8}{9}$
88.....	$31\frac{1}{3}$	101.....	$38\frac{2}{9}$
89.....	$31\frac{4}{9}$	102.....	$38\frac{5}{9}$
90.....	$32\frac{2}{3}$	103.....	$39\frac{1}{3}$
91.....	$32\frac{7}{9}$	104.....	40
92.....	$33\frac{1}{3}$	105.....	$40\frac{5}{9}$
93.....	$33\frac{8}{9}$	106.....	$41\frac{1}{3}$
94.....	$34\frac{1}{3}$	107.....	$41\frac{2}{3}$
95.....	35	108.....	$42\frac{2}{3}$
96.....	$35\frac{5}{9}$	109.....	$42\frac{7}{9}$
97.....	$36\frac{1}{3}$	110.....	$43\frac{1}{3}$
98.....	$36\frac{2}{3}$		

To convert Fahrenheit into Centigrade : subtract from No. of degrees Fahrenheit 32, multiply the remainder by 5 and divide by 9.

$$\begin{array}{r}
 \text{Say, Fahrenheit} \dots\dots\dots 110 \\
 \text{Subtract} \dots\dots\dots 32 \\
 \hline
 78 \\
 \text{Multiply by} \dots\dots\dots 5 \\
 \hline
 390 \\
 \text{Divide by} \dots\dots\dots 9 \overline{)390} \\
 \hline
 43\frac{1}{3}
 \end{array}$$

To convert Centigrade into Fahrenheit : multiply the Centigrade degrees by 9, divide by 5 and add 32.

$$\begin{array}{r}
 43\frac{1}{3} \text{ C.} \\
 9 \\
 \hline
 390 \\
 \text{Divide by} \dots\dots\dots 5 \overline{)390} \\
 \hline
 78 \\
 \text{Add} \dots\dots\dots 32 \\
 \hline
 110^{\circ}
 \end{array}$$

The reason is that Centigrade runs from freezing point 0 to boiling point 100. Fahrenheit runs from freezing point 32 to boiling point 212.—100 C = 180 F.

CHAPTER II.

THE MEDICAL JURISPRUDENCE OF CRIME AND INSANITY, CRIMINAL RESPONSIBILITY.

BEFORE entering upon the subject of crime, and, consequently, responsibility, I find it necessary to make some preparatory remarks, without which the reader and myself would be sure to come to a misunderstanding.

We recognize two distinct orders of responsibility, which we term legal and moral. All peoples recognize these distinctions, therefore it is to be assumed that they had cause for so doing. But if there were to be two orders of responsibility (and I recognize two such orders) there must of necessity be two distinct tribunals, one before which man is arraigned for his legal responsibilities, the other before which man is arraigned for his moral responsibilities. Again, it is evident, from these facts, that a man may be guilty of moral crime and not guilty of legal crime ; and he may be guilty of legal crime and not be guilty of moral crime. Now, in what I have to write as a Medical Jurist, I have nothing whatever to do with man's moral responsibility—that is a question for quite a different tribunal than our Courts of law. Therefore, when I speak of a man's responsibility, in this essay, I simply mean it in the latter sense, because, as I have already said, Courts of Law cannot adjudicate upon moral responsibility, for the simple reason that the Court cannot know by any process of reasoning, or by the testimony of any witness, what is the conscience of the accused. Every man is morally responsible to act in accordance with his conscientious convictions ; to do that which he conscientiously believes to be right, and not to do that which he conscientiously believes to be wrong. Every man knows his own conscience ; but no other man can know it, unless it is by the former expressly and distinctly revealed. My conscience is my subjective, but it is not another man's objective ; therefore another man can have no conception of what my conscience really is unless I tell it to him. Consequently a judge and jury cannot adjudicate upon my

moral responsibility no more than I can adjudicate upon theirs. Each man's moral responsibility depends upon his conscience, and each man's conscience depends upon his education. Consequently what would be morally wrong in one man would be morally right in another. For example, what would be morally right to the Jew would be morally wrong to the Christian, and vice versa; that which would be morally wrong in the Catholic would be morally right in the non-Catholic. For example, the Catholic would commit a moral wrong, if he could, and did not, assist at Mass every holiday of obligation throughout the year; but there is no moral wrong in the Jews or non-Catholics not assisting at Mass, if so be they are in good faith. I conceive that every man is morally responsible not to live in a state of doubt, and that every man is bound to do his best to discover truth and morally bound to aspire to do right because it is right, and not merely through fear of punishment or hope of reward. A man's highest motive for doing right should simply be that it is right. When a reasoning and reasonable man does that which he is *convinced* is right, for right's sake only, it is *to him* right, and when a man does that which he is convinced is wrong, although the act *per se* may not be wrong, it is to him wrong.

All men, like unto that provincial governor, Pontius Pilate, ask "*What is truth?*" and the large majority of men, like unto Pilate, do not want to know it, when it is contrary to their preconceived opinions. No man should be afraid to hear scientific truth, no man should be afraid to learn and know all that he possibly can know of natural laws. Truth is truth, and has nothing to fear from candor in the careful pursuit of the study of those laws; for though, at times, there may be an *apparent* clashing between one set of facts and that of another, yet patient investigation will eventually discover the secret hidden links which unite them into one harmonious and congruous whole. Truth *is one*, and can never be in conflict with itself.

I considered it necessary to point out what I conceive to be the difference between moral and legal responsibility. Courts of law have to deal with the latter and latter only, and in this treatise when I speak of responsibility, I confine myself to what is understood as legal responsibility.

On the 29th of June, 1881, there were in the Penitentiary of St. Vincent de Paul two convicts, viz., Hugh Hayvern and Thomas Salter. On that day, in the presence of witnesses, the former killed the latter by plunging a knife into his heart. At the October term of

the Court of Queen's Bench, 1881, held in the city of Montreal, their Honors Justices Monk and Cross presiding, Hugh Hayvern was tried and found guilty of the murder of Salter. The prosecuting lawyers were Messrs. Davidson and Ouimet, Q.C. Mr. J. J. Curran, Q.C., for the defence. His plea was that the prisoner was an insane imbecile, who committed the crime under an uncontrollable epileptic impulse, and consequently was irresponsible for his act. Mr. Curran called upon me as a mental expert to prove the correctness of his assumption.

On the 6th December, 1881, Hugh Hayvern was hanged, and on the 6th January, 1882, that indefatigable and enthusiastic pathologist, Professor Osler of McGill University, exhibited to the members of the Montreal Medico-Chirurgical Society the left hemisphere of Hayvern's brain with the following remarks, as reported in the *Medical News*, Philadelphia: "That Hayvern was a low, dissolute fellow, addicted to drink, with no special neurosis in his family, who, on June 29, stabbed a fellow convict. The brain weighed 46½ ounces, and was fairly well formed. The cerebellum was completely covered by the cerebrum. On examination it was found to conform in many respects to Benedikt's cases, and was typical according to his views in the following particulars: the union of the Sylvian fissure with the first frontal gyrus; the junction of the inter-parietal with the parieto-occipital and first temporal fissures; the extension of the calcarine fissure into the scissura hippocampi; the union of the collateral and calcarine sulci, and in the fusion of the first frontal gyrus, so that there appeared to be four frontal convolutions arising from the ascending frontal or anterior central gyrus." The reader will perceive that no matter how we may differ as to anatomical cause for physiological effect, that the brain of Hayvern was a very abnormal brain, which Dr. Osler admitted in reply to my question, "Was it not an abnormal brain?" saying that it was. I quote again from the *News*: "Dr. Henry Howard believed in a criminal class as distinct a class as a mercantile class, and regarded the mental and moral condition of the individuals belonging to it as dependent absolutely on their physical organization. Hayvern was not responsible for his act, it was not premeditated, but was performed under the influence of an uncontrollable impulse, and he thought that there was evidence to show that it may have been connected with an epileptic neurosis." Of course whoever made this report made it from memory, and in good faith, but I certainly have no recollection of saying "*moral condition*," and I am

sure I said *was* instead of *may* have been connected with an epileptic neurosis. Now, under our laws an insane man is not held to be responsible for his acts, consequently the judge and jury did not consider Hayvern insane, in other words they did not consider my evidence conclusive. Therefore they hanged Hayvern.

I have commenced this chapter with the foregoing historical fact, because I mean to elucidate my views by the living and dead Hayvern, and to make this chapter the more interesting, and give both sides of the question, as well as the peculiarities of Hayvern's brain, I will take the liberty of reproducing a paper read by Professor Osler before the Medico-Chirurgical Society of Montreal on the 6th January, 1882, when he exhibited the brains of two criminals, viz., Hayvern and Moreau. I shall also reproduce an article from the *Chicago Medical Review* by Dr. Kiernan, and also the remarks of Dr. Hack Tuke (editor of the *Journal of Mental Science*, published in London, England), whose remarks, I need hardly say, I feel to be a great honor conferred upon me.

Reprinted from the "Canada Medical and Surgical Journal," Montreal, February, 1882.

ON THE BRAINS OF CRIMINALS.

WITH A DESCRIPTION OF THE BRAINS OF TWO MURDERERS.

BY WILLIAM OSLER, M.D., M.R.C.P., LOND.

PROFESSOR OF THE INSTITUTES OF MEDICINE IN MCGILL UNIVERSITY, AND PHYSICIAN TO THE MONTREAL GENERAL HOSPITAL.

[*Read before the Medico-Chirurgical Society of Montreal.*]

"Mentally and bodily, we are largely the result of an hereditary organization, and the environment in which we have been reared. The child of a bushman nurtured in the family of a philosopher will not be able, with favourable surroundings, to rise much above his race level; the child of a philosopher, reared among the bushmen, will not reach his paternal standard, but the grossness of the savage natures around him will have weight to pull him down, and what is fine will learn to sympathize with the clay. In the former case the individual cannot transcend his organization; and in the latter he cannot burst the iron bars of his environment. That the mental and moral status of a man is determined by the conformation and devel-

opment of his brain is an axiom with the school of physiological psychologists. The conformation is a matter of inheritance; the development, of education (in its widest sense). The different mental conditions of individuals are the expression of subtle differences in cerebral structure, just as the diversity in the features of men is the result of minute variations in the arrangement of the tissues of the face. That a faulty physical basis can have no other sequence than a faulty mental and moral constitution is acknowledged and acted upon by every one, so far as idiots and imbeciles are concerned, but that mental and moral obliquity is invariably the outcome of an ill-conformed or ill-developed brain is a doctrine novel and startling, though logical enough from the stand-point of modern physical fatalism. Endeavors have recently been made to put this theory on firm grounds by showing that in a large number of criminals the type of brain differs from that in the law-abiding members of the community.

Anatomists and physiologists have of late paid much attention to the conformation of the brain surface, and the convolutions and fissures are now studied with care and minuteness. In a typical European brain, the cerebellum is completely covered by the cerebrum, and the general arrangement of the gyri and sulci is such that there is rarely any difficulty in mapping them out and assigning their proper names to each. Thus, on the external surface of each hemisphere we recognize two fissures which are constant and invariable in position—the *fissures of Sylvius and of Rolando (central sulcus)*. Other fissures constantly present, but less definite in their arrangement, are: the *inter-parietal*, which passes through the parietal lobe; the *parieto-occipital*, separating the parietal and occipital lobes, best seen from the median surface, the *superior* (1st), *inferior* (2nd), and *ascending* (3rd) frontal sulci and the 1st and 2nd *temporal*.

On the median surface, the *calloso-marginal*, the *parietal-occipital*, the *calcarine* and *collateral* are well marked and distinctive.

The convolutions or gyri separated by these fissures are remarkably uniform, and, though often intersected by subsidiary sulci, can usually be determined without difficulty. Of these the only ones which need be now mentioned are the three frontal, 1st, 2nd and 3rd, the general direction of which is parallel to the longitudinal fissure and the two central gyri which bound the fissure of Rolando on either side.

In the typical brain the main fissures are unconnected with each other; thus the fissure of Rolando is isolated and does not unite with

the Sylvian fissure below, or the ascending frontal or ascending parietal sulci on either side. The Sylvian fissure does not join with any of the sulci above or below it.

Prof. Benedikt of Vienna has made a special study of the brains of criminals,* and believes that he has met with peculiarities sufficiently marked to warrant the following proposition: "*The brains of criminals exhibit a deviation from the normal type, and criminals are to be viewed as an anthropological variety of their species, at least amongst the cultured races.*" The two peculiarities on which he lays stress are: (1st) the confluence of many of the primary fissures; and (2nd) the existence of four horizontal frontal gyri. He proposes to establish a confluent fissure type of brain, and he illustrates its most important characteristic by saying, "that if we imagine the fissures to be water-courses, it might be said that a body floating in any one of them could enter almost all the others." This, of course, means the absence of numerous bridges of nerve matter which normally separate the fissures—defects, marking an inferior development of the brain. Between the normal type with isolated fissures and the type with confluent fissures there will naturally be transitions, but he calls attention to the number and variety of the connections in his series of the brains of 22 criminals as supporting the truth of his proposition. He states that the brains of individuals in the lower grades of society approach nearer to the 2nd type, and it is probable, though as yet full data are wanting, that the brains of the inferior races of men also conform more closely to this than to the type with isolated fissures. Let us see now how far he has been able to establish the truth of this view. Of 38 hemispheres from the 22 criminals the following were some of the most interesting points:—

I. The *fissure of Rolando* communicated with:

(a) *fis. Syl.* completely in 18, incompletely in 6.

(b) with 3rd or *ascending frontal*, complete in 11, incomplete in 2.

(c) with the 1st or *superior frontal sulcus*, complete in 9, incomplete in 1.

(d) with *inter parietalis*, complete in 7, incomplete in 4.

Of the 19 brains there was not one in which the *fissure of Rolando*

* On the Brains of Criminals, Vienna, 1879. Translated by Dr. Fowler. Wood & Co., New York, 1881. *Cent. f. d. med. Wissenschaften*, 1876, and No. 46, 1880.

had not on one side a connection with some other fissure. Altogether there were 58 connections, 35 on the left and 23 on the right side.

II. The *Sylvian fissure* communicated with :

(a) *fis. R.* in 18 completely, in 6 incompletely.

(b) with *frontal sulci* in 18, incomplete in 7.

In 7 brains it existed on both sides ; only absent on both sides in 3.

(c) with *fis. inter-parietalis* in 22, incomplete in 6.

(d) with *1st temporal* in 18, incompletely in 4.

III. The *fis. inter-parietalis* communicated with :

(a) *fis. R.* complete in 7, incomplete 4.

(b) *fis. Sylv.* complete 22, incomplete 7.

(c) *1st. T.* complete 19, incomplete 6.

In the 38 hemispheres there were 51 complete and 16 shallow connections of the *inter-parietalis*.

IV. The *scissura hippocampi* communicated with :

parieto-occipital, complete 17, incomplete 2.

V. The *calloso-marginal fissure* :

with *parieto-occipital*, complete 8.

VI. The *parieto-occipital* :

with *inter-parietalis* and *horizontal occipital*, complete 21, incomplete 6.

These were the most important connections ; the others I shall not refer to.

The second peculiarity which Prof. Benedikt has noted in the brains of criminals is the existence of 4 horizontal gyri springing from the ascending frontal or anterior central convolution. This he regards as an animal similarity, and a reversion, so to speak, to the typical four primitive gyri of the brains of carnivora. The fourth gyrus is formed by the splitting, by a deep fissure, of either the 1st or 2nd convolution. In his latest communication on this point,* the results are given of the examination of 87 hemispheres (from 44 criminals), of which only 42 presented the normal type of frontal convolutions, and 27 showed four gyri. In these the additional gyrus resulted in 8 from the splitting of the superior ; in 16 from the division of the middle convolution. In 13 there was an imperfect division into four gyri. In two hemispheres there were five frontal convolutions.

Through the courtesy of Dr. Desmarteau, Jail Surgeon, I was present at the autopsy, and secured the brain of the man Hayvern who

* *Centralb. f.d. med. Wissenschaft.*, No. 46, 1880.

was executed for the murder of a fellow-convict; and the Department of Justice permitted me to secure the brain of Moreau, who was executed at Rimouski.

I.—Hayvern, aged 28, was a medium-sized man, of no trade; Irish descent; parents living, and respectable; no insanity, inebriety or neurotic disease in the family. He had been a hard drinker, and as a child was stated to have had fits. There is no evidence of the recurrence of these in adult life. He was serving a term in the Penitentiary, having been sentenced for highway robbery in 1879. He had previously been in jail more than twenty times, and may be taken as a good representative of the criminal class. The details of the murder show deliberation, and there was no evidence to show that the act was performed during a paroxysm of epileptic mania.

The skull was somewhat ovoid in shape, dolicho-cephalic; the forehead rather low and retreating. The calvaria was of moderate thickness; no signs of injury, old or recent.

Brain last organ examined. Pl. I.—Vessels were empty; drained of blood by the opening of the vessels of the neck, both in front and behind. Membranes were normal. Weight of organ, 1326 grammes ($46\frac{1}{2}$ ozs.). Cerebellum completely covered by cerebrum. I obtained the left hemisphere for special study, and the details of its structure are as follows:—

Antero-posterior diameter	16.5 cm.
Hemispheric arch	24.8 "
Anterior curve (tip of Fr. lobe to Fis. Rol.) ..	14 "
Middle curve (from Fis. Rol. to Par.-occip. Fis.)	6.2 "
Posterior curve (from Par.-oc. to tip of Occip. lobe)	4.8 "

Sylvian fissure (Fig. 1), in addition to the normal *ascending* and *horizontal* rami, presents a radial branch which passes into the *frontal gyri* (*a*), a short radial extension into the *asc. parietal* (*b*), and a shallow communication with *retro-central sulcus* (*c*).

The *fissure of Rolando* (F.R.) or *central sulcus* is separated from the F.S. by a very narrow bridge of brain substance. It has no other connections.

There are four well-marked *frontal gyri* (1, 2, 3 and 4); the extra one (2) appears to be formed by the splitting of the *superior* or 1st *gyrus*, though its base, where it joins the *asc. front. gyrus*, is in the position of the *middle* or 2nd *fr. gyr.* As can be seen in the plate there are two radial sulci which pass from a point just behind *asc. ramus* of *fis. Sylv.* and ascend almost to the *long. fis.* They are

deep, and the hinder one has a crucial extension in the position of the *2nd fr. sul.*

The *sulcus inter-parietalis* presents a well-marked radial portion which passes up behind the ascending parietal convolution in its whole length (*asc. pariet.* or *retro-central sulcus*); the sagittal part passes back into the parietal lobe and divides into two branches, one of which (*d*) curves round the *supra-marginal gyrus* and unites with the *1st temporal fis.*; the other (*e*) ascends to the median border, and is continuous with a sulcus which joins the *parieto-occipital*.

The *asc. par. gyrus* (retro-central) is well developed, as are also the *angularis* and *supra-marginal*.

The *horizonal* (or *sup.*) *occipital sulcus* is well developed; it does not join the *par. occip.*, but sends branches into the *gy. cuneus*. It appears to join the *2nd temp. sulcus*, but the brain is lacerated at this point, and it is difficult to make out the connection.

The *1st temporal sulcus* is strongly marked, passes up and joins the *inter-parietal*. The *2nd temp.* cannot be well made out on account of the laceration.

On the median surface (*Fig. 2*), the *calloso-marginal sulcus* is strongly developed, presents numerous perpendicular branches, and terminates by two, one of which (*f*) ascends to the usual position behind the *retro-central gyrus*, the other (*g*) curves round and divides the *gyrus fornicatus* from the *pre-cuneus* (or quadrilateral), extending to within a short distance of the calcarine fissure, and uniting with the *fis. cruciata*.

The *gyrus fornicatus*, in the anterior half of its extent, presents a well-marked sulcus running along its centre.

The *parieto-occipital* is deep and well marked; it has a branch (*h*) which curves over the border and unites with the *inter-parietal*. The *calcarine* fissure unites with the *par. occip.*, and the conjoined sulcus communicates with the *scissura hippocampi* by a wide groove (*i*).

The *sulcus collateralis* joins the *calcarine* by a large fissure (*j*), which ends just at the handle of the fork of the *par.-occip.* and *calcarine*. Another sulcus (*k*) passes from it round the under surface of the occipital lobe, dividing the *temporal gyri* from the *occipital*.

The *orbital gyri* are separated from the frontal anteriorly, by a well-marked fissure (fronto-marginal of Wernicke).

The convolutions of the *insula*, normal.

According to Benedikt's views, this hemisphere is atypical in the following particulars :—

(a) The union of the *Sylvian* with the *1st frontal sulcus*.

(b) The junction of the *inter-parietal* with the *parieto-occipital* and with the *1st temporal*.

(c) The extension of the *calcarine* fissure into the *scissura hippocampi*.

(d) The extension of the *calloso-marginal* fissure between the *gyrus fornicatus* and the *pre-cuneus*.

(e) The union of the *collateral* and *calcarine* fissures.

(f) The fission of the *1st frontal convolution* into two parts, so that there appear to be four frontal gyri—a condition which Benedikt lays great stress upon as a marked *animal similarity* in the human brain.

II.—Moreau, a small farmer in the county of Rimouski, aged 40, French-Canadian, murdered his wife last summer, and was executed on the 13th of January. He was a short, very powerfully-built man, uneducated, and of a morose disposition; was temperate, and had never before been convicted of any crime. He had not lived happily with his wife, and quarrels had been frequent; one day, when in the woods together, he cut her head open with an axe. The deed was apparently premeditated, as it came out in evidence that he had offered money to a man to do it for him. After the act and during the trial he maintained his usual stolidity, and did not appear to take a very deep interest in the proceedings. Indeed, it is stated that he was unaware, until some time after the sentence, that he was to be hanged. The autopsy was performed, about an hour after his death, by Dr. Belleau, and the brain was secured by H. V. Ogden, B.A., and brought to me in excellent condition for examination.

Organ large, weighed about 1587 grms. (56 ozs.) (*Pl. II.*) The hemispheres, though large, did not completely cover the cerebellum. Membranes were normal; vessels of the pia mater and the subjacent grey matter deeply engorged.

Left hemisphere (*Pl. II., fig 3*).—*Fis Sylv.* is separated from ascending *parietal* by a very narrow and grooved gyrus, and joins the *inf. front.* by a shallow sulcus (*a*).

Fis. Rolando sends a deep fissure (*b*) across the upper end of *asc. par. gyr.*, which curves round the margin and unites with *fis. cruciata* of the *pre-cuneus*. There is not a well-marked *asc.* or *3rd front sul.* The *1st fr. sul.* has a short vertical branch, and only extends for 2.5 cm. from *asc. front gyr.*, when the *1st* and *2nd* convolutions fuse, but beyond this it is again apparent. *2nd front. sul.* has a short vertical

branch, and joins the *fis. Sylv.* by a narrow groove. Its anterior extension is well developed. The *3rd front. gyr.* is large in comparison with the 1st and 2nd. The *asc. front. gyr.* is large.

The *asc. par. sul.* (retro-central), which is usually united with the inter-parietal, and called its radial portion, is isolated, and only joins the *fis. Sylv.* by a shallow furrow (*e*). The *asc. par. gyr.* is narrow.

The *inter-parietal fis.* runs almost parallel to the *asc. par.* and *fis. Rol.*, being separated from the former by a narrow convolution which joins the *sup. parietal lobule*. Below it joins the *1st temp. sul.* (*d*); above it does not extend to the margin. Gyri of parietal lobe well developed.

The *1st temp. sul.* is crossed in two places by bridging gyri uniting the 1st and 2nd convolutions. Posteriorly this sulcus has two branches—one which joins the *i. par.*, the other the *inf. occip.* The *2nd temp. sul.* is not well marked.

The *sup. occip. sul.* joins the *par. occip.*; the *inf. occip. sul.* the *1st temp.*

On median surface, *par. occip. fis.* unites with *sup. occip.*, and by a shallow sulcus with *fis. cruciata of pre-cuneus*.

Calcarine fis. normal; *cuneus* small.

Fis. collateralis long, and sends numerous fissures into gyri *lingualis* and *fusiformis*.

Sul. calloso-marg. has many fissures entering the *1st front. gyr.* *Gyr. fornicatus* is fissured longitudinally. *Orbital gyri* normal; well marked *frontal marginal sul.* No external orbital fissure. *Insula* well developed, and has 9 gyri.

Right hemisphere (Pl. II., fig. 4).—Fis. Sylv. joins *3rd* or *asc. front. sul.* (*a*), and the *asc. par.* (*b*) (retro-central) by shallow furrows. *Fis. Rol.* unites with *1st front.* (*c*) and *asc. par.* (*d*) sulci by narrow grooves.

The *asc. front. sul.* arises by a shallow fissure from the *fis. Sylv.*, and then at the base of the *2nd front. gyr.* joins the *2nd front. sul.* *1st, 2nd* and *3rd frontal gyri* are well developed and distinct posteriorly. Anteriorly they are fused and crossed by many secondary sulci. *Asc. frontal gyr.* is very narrow in its centre.

Inter-parietal fis. has a well marked radial portion (the *asc. par.* or retro-central). The sagittal part passes back, and presents three divisions—one (*e*) enters the *sup. par. lobule*, a second (*f*) passes directly back and joins a fissure in the position of *inf. occip.*, which reaches to the tip of occip. lobe, and the third (*g*) part passes verti-

cally down and unites with *1st temp. sul.*, and has a branch which crosses the *2nd temp. gyr.*

Asc.-par. convolution is large below, narrow above. The *angular*, *supra-marginal* and *sup. par. lobule* are much fissured.

1st temp. sul. joins *i.-par.*; the 2nd is not marked. Several oblique sulci cross the 2nd and 3rd temp. gyr. *Sup. occip. sul.* joins *par. occip.*

On the median surface, *par. occip. fis.* joins *sup. occip.*; the *calcarine* enters *scissura hippocampi* and joins the *fis. collateralis* by a shallow groove. *Fis. collateralis* large and deep.

The *cuneus* is small; *pre-cuneus* (lob. quad.) is large and its anterior boundary ill-defined.

Calloso-marginal fis. extends to level of base of *1st frontal*, and then curves up to the margin of the hemisphere, being interrupted by a broad annectant uniting the *gyr. fornicat.* with *1st front.* Beyond this there is a short extension which joins a complex series of sulci in the *pre-cuneus*.

Orbital gyri normal. There is a narrow *fronto-marginal sul.* There is a well-marked *external orbital fissure*.

The chief points to be noted are :—

1. The absence of complete covering of cerebellum by cerebrum.
2. On both sides the *pre* and *retro-central fissures* were separated from *fis. of Sylvius* by very narrow and grooved gyri.
3. The left *fis. Rolando* joins *fis. cruciata* of *pre-cuneus*, and on the right side it is imperfectly separated from *1st front.* and *asc. par. sulci*.
4. The *inter-parietal*, on both sides, joins the *1st temp. sul.*, and on the right side is much more developed and joins the *occipital*.
5. On the median surface the *calcarine* on the right side enters the *scissura hippocampi*.

There remain two questions for consideration : first, to what extent does Professor Benedikt's confluent fissure type of brain prevail among ordinary members of the community, and how far is it reliable as an indication of defective development ?

With a view of ascertaining how far the confluent fissure type of brain exists among the lower classes in this community, I have examined carefully 63 hemispheres from 34 individuals, all of whom were patients in and died at the General Hospital. Most of these were preserved by Giacomini's method, and as no special note exists as to the social standing or character of any of the individuals from whom

they were obtained, the results are of value only so far as they show to what extent confluence of fissure occurs in that class from which the Hospital wards are recruited.

1. The Fissure of Rolando communicated with—
 - a. *Fissure of Sylvius*, in 3 completely, in 7 incompletely.
 - b. *Frontal sulci*, complete in 12 ; incomplete, 9.
 - c. *Inter-parietal sulci*, complete in 7 ; incomplete, 9.
2. The Fissure of Sylvius joined—
 - a. The *F. R.* [see above].
 - b. The *frontal* in 20.
 - c. The *inter-parietal*, complete in 26 ; incomplete, 8.
 - d. The *1st temporal*, in 15.
3. The Inter-parietal united with—
 - a. The *F. R.* [see above].
 - b. The *F. S.* [see above].
 - c. The *parieto-occipital* in 18.
 - d. The *horizontal or sup. occipital* in 14.
 - e. The *1st temporal* in 19.
4. The *Calcarine* entered the *scissura hippocampi* in 5.
5. The *calloso-marginal* joined the *par.-occipital* in 1.
6. The *parieto-occipital* joined—
 - a. The *inter-parietal* in 18.
 - b. The *horizontal occipital* in 3.

From these limited observations we may conclude—

1. That a considerable proportion of the brains of Hospital cases are of the confluent fissure type.

2. The chief difference to be noted between Prof. Benedikt's series of criminals' brains, and those which I have just gone over, is the somewhat greater number of unions between typical fissures, more particularly between the *fis. Rol.* and contiguous ones. Thus in his set this fissure connected, completely or incompletely, with the *fis. Syl.* in 24 instances ; in my series in only 10. In the other fissures the disproportion is not nearly so great.

3. Considering the number of brains of ordinary Hospital patients which present in some degree the confluent fissure type, it would seem more reasonable not to assign as yet any special significance to it until we have fuller information about the arrangement of the convolutions in the various races, and until a much larger number of the brains of criminals of all countries have been examined.

Professor Benedikt's cases were nearly all Slavonians or Hungar-

ians, and though Betz of Kieff, a leading authority, acknowledged the atyp of his specimens, it would have been more satisfactory to have had a comparison between these specimens and an equal number taken from law-abiding members of the same races. It may be urged that in Hospital patients the brains should conform in considerable numbers to this 2nd or confluent fissure type, as many of them are individuals in the lower ranks of life, and not a few belong to the criminal class. This applies, however, much more forcibly to dissecting-room material, which, as Dr. Benedikt says, "consists of the remains of those who have suffered complete shipwreck in life through low grade of intelligence, imperfect motor development, or through crimes and vice." In the series of brains which I examined, there were no dissecting-room specimens, and it did not include the brain of any notorious criminal so far as I am aware.

As to how far confluence of fissures is indicative of a low type of cerebral organization we also want fuller information. When existing in high degree, there is certainly an absence of many important annectants or bridging areas of brain substance; but when we consider the variable size of convolutions bounding the typical fissures, it is easy to see that defect in one part might be more than compensated for by excess in another part, and even a neighboring part. In several of the brains which I examined, notably No. 10, the confluent fissure type existed in an organ with a rich convolution system. In the brain of Moreau, the retro-central fissure on the left side was separated from the inter-parietal by a distinct gyrus, which might as well be regarded as an excess, as absence of an annectant and confluence of two fissures might be considered a defect.

With reference to the type of four frontal convolutions which Prof. Benedikt has found in such a large number of his specimens, I will only say that in 10 of the hemispheres examined it was observed in a greater or less degree of development. Nowhere was it better seen than in the brain of Hayvern. To enter upon the anatomical significance of this would be beside the question on this occasion.

Professor Benedikt's conclusions are those of a thorough-going somatist, who would bring all human conduct within the range of organic action. "The constitutional criminal," he says, "is a burdened individual, and has the same relation to crime as his next of blood kin, the epileptic, and his cousin, the idiot, have to their encephalopathic conditions." And, again, "the essential ground of abnormal action of the brain" (*i.e.*, I take it, bad conduct) "is abnor-

mal brain structure. His 44 criminals were what they were because of defects in the organization of their hemispheres: they belonged to the *criminal variety* of the *genus homo*. No wonder, he says, "that this proposition is likely to create a veritable revolution in ethics, psychology, jurisprudence and criminalities." He wisely adds that it should not yet serve as a premise, and should not, for the present, leave the hands of the anatomists, since it must be repeatedly proven before it can finally rank as an undoubted addition to human science.

Crime is commonly regarded as the result of yielding to an evil impulse which could have been controlled; and this element of *possible control* is what, in the eyes of the law, separates the responsible criminal from the irresponsible lunatic. The belief in a criminal *psychosis* is spreading, and is the outcome of sounder views of the relation of mind to brain; and these investigations of Prof. Benedikt, to which I have so frequently referred, may serve as a foundation to a natural history of crime. But if this *is* the case, how are we to regard our criminals? What degree of responsibility can be attached to the actions of a man with a defective cerebral organization? Where is there scope to eschew the evil and to do the good, when men are "villains by necessity, fools by heavenly compulsion, knaves, thieves and treachers by spherical predominance." Any one who believes that with all our mental and moral processes there is an unbroken material succession, must consistently be a *determinist*, and hold, with Spinoza, that "in the mind there is no such thing as absolute or free will, but the mind is determined to will this or that by a cause which is determined by another cause, this by yet another, and so on to infinity." For a long time to come, however, the majority of individuals—including some who are inconsistent in so doing—will continue to hold the *intuitionist* view, nowhere better expressed than by Shakespeare, when he puts into the mouth of that arch-criminal, Iago, the words: "'Tis in ourselves that we are thus and thus. Our bodies are our gardens to the which our wills are gardeners; so that if we will plant nettles or sow lettuce, set hyssop and weed up thyme, supply it with one gender of herbs or distract it with many, either to have it sterile with idleness or manured with industry, why, the power and corrigible authority of this lies in our will."

"Theft and murder," as Huxley well says, "would be none the less objectionable were it possible to prove that they were the result of the activity of special theft and murder cells in the grey pulp." One thing is certain, that, as society is at present constituted, it cannot

afford to have a class of *criminal automata*, and to have every rascal pleading faulty grey matter in extenuation of some crime. The law should continue to be a "terror to evil-doers," and to let this anthropological variety (as Benedikt calls criminals) know positively that punishment will follow the commission of certain acts, should prove an effectual deterrent in many cases, just as with our dogs, the fear of the whip exercises a restraining influence—immediate as well as prospective—on the commission of canine crimes."

"THE BRAINS OF CRIMINALS.—Dr. Osler read a paper on this subject, and recorded the results of an examination of the brain of the murderer Hayvern, who was executed at Montreal on 11th December, 1881. He first referred to the observations of Benedikt of Vienna, who, in 87 hemispheres from 44 criminals, has found certain peculiarities which he regards as indicative of a lower type of cerebral organization. The points upon which he most dwells are the confluence of many of the principal fissures, and the existence in a considerable proportion (27 of the 87) of four frontal gyri, the fourth being formed by the splitting of the first or second gyrus. This is regarded as an animal similarity. Hayvern was a low, dissolute fellow, addicted to drink, with no special neurosis in his family, who, on June 29, stabbed a fellow convict. The brain weighed 46½ ozs., and was fairly well formed; the cerebellum was completely covered by the cerebrum. On examination it was found to conform in many respects to Benedikt's cases, and was atypical, according to his views, in the following particulars: The union of the Sylvian fissure with the first frontal gyrus; the junction of the inter-parietal with the parieto-occipital and first temporal fissures; the extension of the calcarine fissure into the scissura hippocampi; the union of the collateral and calcarine sulci, and in the fusion of the first frontal gyrus, so that there appeared to be four frontal convolutions arising from the ascending frontal or anterior central gyrus. To ascertain how far these peculiarities existed in the brains of hospital patients, Dr. Osler examined 43 hemispheres from 24 individuals, and found that a very considerable proportion were of the confluent fissure type. Thus, the Sylvian fissure joined the fissure of Rolando in 8 hemispheres, the frontal sulci in 18, the interparietal in 19, and the first temporal in 12. The chief difference between Benedikt's series of brains of criminals and those examined was a greater number of unions between the typical fissures, more particularly the fissure of Rolando, which in the former joined contiguous sulci in 24 instances. In 9 of the 43 hemispheres there were

four more or less distinct frontal gyri. He thought that much fuller information was needed about the arrangement of the sulci in the different races, and many more criminals would have to be examined before any positive result was arrived at as to the constant atypical character of the brain in members of this class. Speaking of Benedikt's conclusions, he questioned whether it was wise to speak of criminals as an anthropological variety of their species. On his views there is no place left for responsibility ; but society cannot afford to have a class of criminal automata, and every rascal pleading faulty grey matter in extenuation of his crimes.

Dr. Henry Howard (Government Visiting Physician, Longue Pointe Asylum) asked if it were known how many of the brains of the series of hospital cases were from criminals, and whether a larger proportion presented abnormalities than could be reasonably thought to belong to this class. He believed in a criminal class as distinct as a mercantile class, and regarded the mental and moral condition of the individuals belonging to it as dependent absolutely on their physical organization. Hayvern was not responsible for his act ; it was not premeditated, but performed under the influence of an uncontrollable impulse ; and he thought that there was evidence to show that it may have been connected with the epileptic neurosis.

Dr. Hingston wanted to know how it was, if viciousness and crime were the product of defective cerebral organization, that some notoriously wicked men had reformed and lived sober and honorable lives ? Was it probable that with such a change there was any alteration in the structure of the brain ? To which Dr. Howard answered certainly.

Dr. Osler, in reply to Dr. Howard's question, stated that the series of brains which he had examined were nearly all preserved by Giacomini's method, and no data existed from which the social status of the individuals could be ascertained. In the 43 hemispheres (19 perfect brains and 5 halves), 19 presented one or more atypical features."

THE HAYVERN CASE.

The evidence in this now celebrated case is reviewed at length in the last number of the *Journal of Mental Science* (January, 1882). Our readers are well aware, through the general press and through the controversy carried on in the columns of some of our medical contemporaries, of the wide divergence between the opinions held by

the medical experts for the prosecution and defence respectively. They know that Dr. Henry Howard took very strong ground in asserting Hayvern's insanity, and that his evidence was entirely overborne by the conjoint statements to the contrary of several others who have given the subject of mental disease some attention, and the man was executed. It will, therefore, interest them to hear the result arrived at by the *Journal of Mental Science*, after a review of the whole case. It says :—

“ Legal opinion in regard to the test of insanity does not appear to have made so much progress in Canada as in some of the States of America, where the test of knowledge of right and wrong has been departed from in a marked manner. Dr. Howard, who has had long experience of the insane, has done good service by ventilating more advanced views on the subject. We hesitate to express a decided opinion on the irresponsibility of this particular prisoner, seeing that several physicians on the spot differed from the conclusion arrived at by Dr. Howard, that he was insane and unaccountable. At the same time the history of the case strongly suggests epilepsy, and the intemperate habits were probably symptoms rather than causes of the low mental condition present. The absence of motive for the crime is a striking feature of the case, as well as the prisoner's indifference to the verdict pronounced upon him.”

Fig. 1.

Plate I.



Fig. 2.



Fig. 3.

Plate 2.

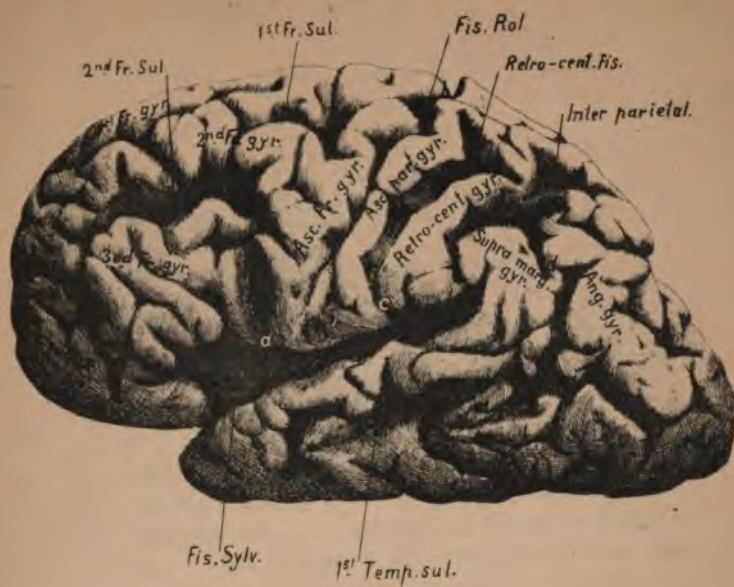
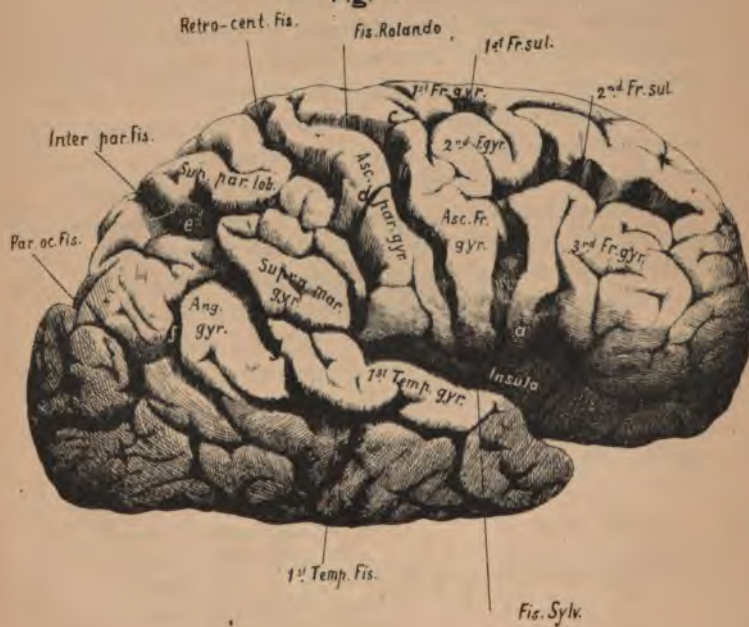


Fig. 4.





MEDICO-LEGAL RELATIONS OF EPILEPSY.

A Study of the Hayvern-Salter Homicide.

BY JAMES G. KIERNAN, M.D., CHICAGO, ILL.

The position which the law holds respecting epilepsy is, like that which it holds on any individual psychosis, a most doubtful one. Epileptics are, of all classes of the insane, those to whom the absurd right and wrong dictum of the law does most injustice. An epileptic may perform an act apparently premeditated, and may appear to know the exact legal consequences of his act, and yet the act be the direct result of the disease. Even in some of the lower mental states there is an apparent premeditation that to the law lords would, from their *a priori* ideas and dicta, appear inconsistent with the real mental condition. In a case reported by Spitzka*, a patient, who was absolutely unconscious, and was held by three persons, his wife holding his head to prevent biting at the others, was seen "to put out his tongue, like a tentacle, to feel where a portion of his wife's hand was available for biting." This man was in a condition of complete unconsciousness, yet there were, as will be seen, skilfully co-ordinated automatic movements. When epilepsy is spoken of in connection with homicide, the first idea that strikes the amateur alienist is, was the act committed in a state of epileptic mania? for this or epileptic dementia are the only forms they recognize. This is something strange, as an old attendant soon learns to recognize the various mental disturbances of epileptics, and in my early studies I obtained hints from an old attendant on the subject that were more in accordance with the dicta of modern science than are the ordinary text books on the subject.

The demarcation which has been drawn in epilepsy by Spitzka †, Samt ‡, Falret § and Sommer || is as follows: The pre-epileptic

* Medical Record, December 31, 1881.

† St. Louis Clinical Record, May, 1879.

‡ Etat Mental des Epileptiques. Archives Générales de Médecine, 1860-1861.

§ Archiv fuer Psychiatrie, Band V. und VI.

|| Archiv fuer Psychiatrie, Band XI., Heft. 2.

insanity which precedes an attack of epilepsy. The post-epileptic, which succeeds an attack. The psychic equivalent, which takes the place of a convulsion. The intervallary insanity, which comes between the attacks. These mental phenomena may vary in duration from a few hours to weeks, and in character from a single act of violence to a long continued maniacal attack. A crime resulting from epileptic may be preceded by a feeling of depression, may be accomplished with comparative deliberation, followed by excitement. The patient may lose all consciousness of the same until a return of the insanity, when he may remember the circumstances of the crime, of which he was ignorant during the period of sanity. It is unnecessary to allude to the fact that epileptic attacks are often extremely slight.

As the crime I propose to discuss was committed in a prison it might be well to enquire what psychoses are ordinarily found among convicts. Perhaps the most valuable contribution to this subject is that of Heimann*. He found that the insane criminals coming under his observation had been epileptic during childhood, and that many were not regarded as either epileptic or insane until long after their first crime, when the full history of the case was obtained. The circumstances of the crime were as follows: A convict named Hayvern murdered another convict named Salter. The deceased and the prisoner were, as a rule, good friends, but the prisoner is reported by one witness to have said "that he would never go to Kingston, and that he had stabbed Salter because Salter wanted to send him to Kingston, and that Salter would never call him insulting names again." The convicts entertain a dread of being sent to the penitentiary at Kingston, but it does not appear that there was any intention, nor had Salter any power to send the prisoner there, nor was it shown that the prisoner was called "insulting names." The murder was committed openly in presence of a number of witnesses. Hayvern had convulsive attacks of some kind during childhood and youth. Although the patient himself had been a criminal, from his youth up, of a low grade, his family are very respectable people. The deed was committed with a knife made out of an old file, a kind of weapon very common, at least in the United States, among convicts, work-house men and other criminal and semi-criminal classes under confinement. It appears from the evidence that the prisoner had abundant opportunity to commit the homicide under more favorable circumstances;

* Zeitschrift fuer Psychiatrie. Band XXXVII., Heft 2.

that "the prisoner stood perfectly still for a minute after committing the deed."

The defence was epileptic insanity, and the case presents many elements of interest. Dr. H. Howard, of Montreal, was the first medical expert called. He testified that the first thing which struck him was the prisoner's peculiar epileptic pallor. He at once saw the prisoner was an imbecile. From private friends, public and police reports, he found the man's conduct to have been very bad. He found the prisoner to have been an habitual inebriate from youth; constantly in prison, and, lastly, sentenced for five years to the Penitentiary; while in the Montreal prison, previous to his removal to St. Vincent de Paul, he attempted to escape through a sky-light, by means of a small cord, which broke, causing him to fall a distance of thirty feet. It was natural for the man to try and escape from prison. The insane in lunatic asylums all over the world try every day to escape, and very frequently successfully. But the means employed for the end prove the fool. No intelligent man of the size and weight of Hayvern would venture his life with the piece of small cord which he used. In the infirmary of the penitentiary, while under medical treatment, he requested the nurse to take a club and strike him with it on the back of the head. One witness said that he (Hayvern) confessed to him that he did premeditate it; but such a confession from an insane man must be taken "*cum grano salis*." Insane persons not only accuse others but themselves of impossible crimes.

But if Hayvern did, from some supposed injury of which he was the victim, premeditate revenge upon Salter, it would be no proof that the murder was not an unpremeditated, uncontrollable, impulsive act, an impulse called into existence at the moment by the appearance of Salter, so that there would be no connection whatever between the premeditation and the act. Again, if he did premeditate the act, and was in the passage waiting and watching for Salter, with the intention of pouncing upon his victim, that would not prove that he was not insane, or that he could control his insane desire; on the contrary, it might be a still stronger proof of his insanity, that under the circumstances in which he was placed he would do an act from the fearful consequences of which it was impossible for him to escape. Every day there are examples in lunatic asylums of insane persons committing crimes that they have premeditated. Premeditation is no more a proof of a man's sanity than is the right and wrong test

which has so long disgraced the statute books. If the knowledge of right and wrong be the test of insanity then one-third at least of all those in asylums all over the world should be set at large, and if giving an intelligible answer to a question be a proof of sanity then a still greater number should be discharged.

Hayvern made a poor attempt at committing suicide, showing that like all insane persons he was a moral coward, he wanted to die, or thought he did, as when he wanted the nurse to strike him on the head. Then, when the kind-hearted acting warden went to him for the knife after the homicide, he actually tried to get that officer to shoot him, all only positive proof that, like all insane persons, the man was a moral coward. The Rev. Father Knox, who obtained the knife from Hayvern, testified that when he saw the man in his cell he was a raving maniac. Psychologically there was not much to be observed. He spoke but little, and that little did not show intelligence. He said "there was something alive in his belly," and asked the doctor to cut it out. In reply to the question, "Did he sleep?" he answered, "No, he could not sleep." He complained of being tired; he wished to sleep. The keepers in charge told Dr. Howard he was seen every half hour, and whenever spoken to always answered, showing that he did not sleep. Insomnia is one of the most marked symptoms of insanity. He was very nervous and excitable, picking up bits of thread and dividing every fibre. His face and body were anæmic; perspiration was pouring from every pore, cold and clammy; his pupils were dilated and sluggish in action; locomotion was normal. His pulse was a hundred and ten; temperature 93.8° ; respiration thirty-six. The radial artery could be seen pulsating. The abdominal aorta was clearly visible when he stood, sat or was in a recumbent position; this was the something alive in his bowels which he wished removed. Five days after Dr. Howard's examination was continued. His pulse was then one hundred; temperature 92.4° ; respiration, thirty-six; heart sounds at base normal, at arch of aorta, something like a bellows sound; apex of heart, first sound, strong; second, weak; the abdominal aorta, abnormal. These are frequently found in persons of an epileptic neurosis, but they may be early symptoms of aneurism. Here, however, was an abnormal state of the vascular system, caused probably by a fall from the roof of the prison; but whatever the cause, it might suffice to produce, at least, functional if not organic derangement of the mental organization, to account for the man's actions. When it is considered what a weak

mind he has always had, it is easy to understand what havoc such a diseased vascular system might produce upon such a mental organization. Dr. Howard examined the nervous system by electricity and æsthesiometer, and found motility normal; the patient was found to be partially analgesic. This is one of the unfailing symptoms, always to be found in the intellectually insane; it can never be feigned, no more than can temperature, which is always below par in the insane, except where there is fever, which is by no means a symptom of insanity.

Judging the mental state of John Hayvern by his conduct, by his physiological symptoms, by his psychological symptoms, by his pathological symptoms, Dr. Howard did not hesitate to declare him to be a man of unsound mental organization; that he was intellectually and morally insane, a mere creature of impulse, and if he did kill Thomas Salter in the manner in which he is said to have done, he killed him while laboring under an insane epileptiform uncontrollable impulse, for which he was not responsible, and his mental aberration was due to three causes: heredity, to his being an inebriate from his youth up, and third, it had been aggravated by his fall from the roof of the jail previous to his having committed the crime of which he is accused.

The use of instruments, though here justifiable, it must be confessed looks something like clap-trap. Many of these statements must strike the alienist reader as being too positive, and some of them as being even slightly contradictory or fanciful. For example, the fact that the prisoner attempted to escape from the prison by such imperfect means is not inconsistent with sanity. Many desperate criminals are known to have attempted escape by similarly imperfect means. The evidence given by the witness that the prisoner said he premeditated the murder is, as Dr. Howard claimed, no evidence that the murder was not committed during an epileptic state, but at the same time it is a very suspicious circumstance where the burden of proof certainly lies on the insanity theory. As Dr. Howard claims, an epileptic may premeditate a homicide, and yet carry out that homicide at a time and under circumstances which could not fail to show the homicide was then unintentional, and the direct outcome of an epileptic explosion.

Dr. Howard's statement that all insane persons are moral cowards is certainly not to be proven. Had he said many epileptics, he would have been nearer the truth. The statement about analgesia being

always a symptom of intellectual insanity is demonstrably erroneous. The statement that the man was an imbecile, and the assignment of the amount of intelligence Dr. Howard does to the prisoner, are, however, not necessarily incompatible. Dr. Howard, like Dr. Nichols and others of the more scientific members of the Asylum Association, holds that imbecility is a result of teratological defect; insanity a result of pathological defect; they therefore classify the primary monomania of the Germans with the imbeciles as imbecility of the first grade; both being equally insane in the sense of the law.

Dr. Howard may have positive reasons for saying that in his opinion the temperature of the chronic insane is always below par; this has not yet been established. That in certain cases it is cannot be denied, and this is undeniably the case with epileptics and paretics. Among certain of the insane and certain neurotic subjects the temperature may fall very low. Lowenhardt* reports two cases of insanity in which the temperature was at various times 87.5° F., 89.6° F. and 90.5° F.; these were cases of maniacal excitement. Mendenhall† cites a case of dementia in which the temperature was 90.5° F. Zenker‡ has studied nine cases of insanity where the bodily heat was found to sink easily; it fell in three cases as low as 90.6° F., and in one instance as low as 87.06° F. Phenomena of this kind, from what is now known of the action of the nervous system on temperature, are nothing more than might be expected. It may therefore be admitted that a patient having a temperature below 96° not in collapse, must be assumed suffering from some neurosis presumably of a psychical kind.

Some things are to be noticed in his evidence in favor of the theory of the prisoner's epilepsy. First: The peculiar pallor observed by Dr. Howard. Second: The existence of neurotic symptoms, low temperature and analgesia. Third: The convulsive attacks during childhood and youth. Fourth: The patient's standing still after the attack; and Fifth: His violence coming on after the comparatively calm manner in which the crime was executed. Before discussing Dr. Howard's evidence further, it is best to examine the evidence of the other experts.

Dr. Angus Macdonald, after having read Dr. Howard's report

* Allgemeine Zeitschrift fuer Psychiatrie, 1868.

† Medical Record, June 4, 1881.

‡ Journal of Mental Science, October, 1877.

and examined the prisoner, testified that he entirely agreed with Dr. Howard, that the prisoner was insane when he committed the crime.

Dr. Edmond Robillard testified that he was the Government Inspector of Insanity at the Montreal Jail ; he examined the prisoner on the 17th, 19th, 20th, 21st, 22nd and 23rd September ; prisoner was nervous and uncomfortable, and reluctant to converse ; however, he said he did not suffer from headache ; during the two or three first visits his pulse was agitated and he was in perspiration ; at the end of each examination his pulse would fall to seventy or seventy-two and the perspiration would all cease, as if the fright was over ; at each visit told witness he was all right, except that he had something in the abdomen which pained him ; the muscular system was that of a strong man. He discovered the dilatation of the aorta ; prisoner's respiration was eighteen or nineteen, and was natural ; after being with the prisoner for some time he did not deem it necessary to further test it, as it was normal. All the perspiration had been caused by fright at the sight of a stranger ; on being asked why he killed Salter, he always answered "I do not know," and could not be brought to speak on this question very much ; at another examination he was asked if he knew Salter was dead, and he answered he did not know.

Dr. Robillard came to the conclusion that he was a very wicked man with greatly perverted morals, and would do anything to attain his object. He did not see any symptoms of epilepsy ; prisoner could distinguish right from wrong. Dr. Robillard was of opinion that half of the epileptics become insane ; uncontrollable impulses are very rarely met with in imbeciles or idiots ; an epileptic does not remember what he does during one of these uncontrollable impulses. He believed that prisoner was perfectly conscious of his act, but that immediately after he became greatly excited, and this fact moved his dormant impulses ; and that the prisoner was neither an imbecile nor an idiot, but that the *muddle* in which he passed the greater part of his life made of him a most depraved character. Dr. Robillard would not have sent him to the lunatic asylum as insane after his examination.

On cross-examination, Dr. Robillard said that he had great respect for the opinion of Dr. Howard, but he did not accept certain theories of his respecting the nervous system ; Dr. Robillard did not make any examination for the partial paralysis of sensation. He found the prisoner to have an aneurism. He agreed with Dr. Howard that intellectual and moral insanity are the same, but did not believe in

the theory that the mind was the product of the body, and believed that the prisoner was a man in whom all the noble attributes of man were wanting.

Dr. Pominville testified he had seen the prisoner almost daily in the Penitentiary, but had not noticed any mental derangement; the prisoner was *taciturn and morose*, but that was not extraordinary; *he was debased morally and mentally*, like most of the convicts, the results of vice; he knew right from wrong, and was responsible for his acts; he was cool and collected after the murder, and seemed to be looking in a looking-glass at the slight wound that he had inflicted on his throat.

On cross-examination he stated he had not made a special study of mental science; had paid attention to ordinary diseases; had never seen and would not know how to use the *æsthesiometer* referred to by Dr. Howard; was not shaken in his belief by the evidence of Dr. Howard; could not speak as to the partial paralysis of sensation; Dr. Howard had not used these instruments when he pronounced twenty-five convicts in the Penitentiary insane. He (Pominville) had solicited a specialist to examine them. He had not followed the progress of psychiatry, and *did not wish to pronounce an opinion on what was termed "uncontrollable impulse," but did not believe any such thing occurred in the prisoner's case.*

He, in answer to a question by the Court said, *that he thought that on the 20th of June last, prisoner was sane, and knew right from wrong, although, at the very moment the act was committed, he might not have thought of either; both before and after the deed he thought he was perfectly sane.*

Dr. Vallée testified that after hearing all the evidence he was of opinion that the prisoner was not insane at the moment he committed the deed, and was perfectly able to distinguish between right and wrong. A man whose temperature is at ninety-five and two-thirds must be suffering greatly; at Beauport Asylum the epileptic maniacs are considered the most dangerous; in cases of epileptic fits the impulses are momentary; the acts are automatic, violent and without motive; an epileptic man never remembers the acts he has committed; imbeciles are subject to these uncontrollable impulses. He had observed the appearance in Court of the prisoner, and found that he, as a rule, manifested a great indifference, but when pointed remarks were made had further observed that prisoner paid greater attention. Dr. Vallée, on cross-examination, said he had studied his profession in Paris, under Professor Charcot, one of the authorities on nervous

matters ; in London he had attended St. Thomas Hospital ; he was physician of Beauport Asylum for two years ; has had occasion to use the instruments mentioned by Dr. Howard ; there are insane people who appear sane to any one except alienist physicians. Insane people are sometimes endowed with cunning. Dr. Vallée's views as further given by him* are as follows : No matter how marked the depression of temperature, of itself it does not constitute a proof of insanity. Dr. Howard arrived at the conclusion that the prisoner struck the blow while under a fit of epileptic mania ; and, consequently, could not be held responsible for this act. Admitting this hypothesis, the fit must have been epileptic dizziness or veiled epilepsy. Now, the unsettled state of the mind, the obtuseness of ideas, the confusion of memory, are the essential characteristics of such attack ; nothing analogous can be detected in Hayvern ; on the contrary, every thing indicates most clearly that his crime was designed beforehand. He chose his victim, fixed his hour, and after striking down Salter, explained his reason for so doing : " You'll never call me C—S— again."

Dr. William Gardner next testified : Has practised for sixteen years, and is Professor of Medical Jurisprudence at McGill College ; has known Dr. Howard and heard him read papers on the subject of insanity ; he has the reputation of knowing his subject very well, but of holding extreme views ; there were no facts in the evidence to warrant the opinion that the prisoner was an epileptic maniac or imbecile, but he was certainly stupid, and of a low order of intelligence ; from the evidence he has heard he would not have made such a diagnosis as Dr. Howard's, but had he done so would consider the prisoner a fit subject for an insane asylum ; he himself would not have sent him to a lunatic asylum ; witness is of the opinion that prisoner can distinguish between right and wrong ; it is possible to be partially insane or monomaniac ; insomnia is not a sign of insanity. He was of opinion that all the isolated symptoms combined would not produce insanity. In all his experience and reading never knew of a case where the temperature was so low, except in cases where death was impending. On cross-examination he said he never was connected with an insane asylum, but has treated about thirty insane patients.

Dr. Charles Cameron next testified. Had practised for eight years, five of which he passed in the Montreal General Hospital ; is Pro-

* Canada Medical Record, November, 1881.

fessor of Medical Jurisprudence at Bishop's College. Has heard the evidence of Dr. Howard, and was of opinion that the prisoner was not insane, and has heard nothing to prove that the prisoner was incapable of distinguishing right from wrong on the 29th of June last. On cross-examination, said that he agreed with Dr. Gardner on the subject of low temperature; the lowest temperature on record is 92.2°. As a supplement to Dr. Cameron's evidence should in justice be taken the following expression of his views*: "A man must be the measure of himself; his mind must be the standard of comparison by which to determine his sanity or insanity, responsibility or irresponsibility. The only safe way in such cases is to compare the individual with his former self."

Such is the evidence given in the case. The statements of Dr. Vallée respecting the unsettled state of mind, obtuseness of ideas, confusion of memory, are true as regards many of the epileptic psychoses, but they are wanting just where they are needed, in many of the psychic equivalents of an epileptic attack. As an element of differential diagnosis their value is but a very, very relative one. Dr. Robillard's statement that impulses are rare with imbeciles, using the latter term either in the sense of Dr. Howard or the ordinary sense, is not in accordance with the views held by alienists. His testimony that the prisoner was nervous and disinclined to converse, and was so frightened that his pulse and perspiration were affected, disposes of the theory that the prisoner was a hardened criminal who would commit a crime in a reckless, brutal manner. No reckless, hardened criminal would act in such a manner, and no sane criminal of any other type would have committed such a desperate crime for such a more than dubious motive. What Dr. Robillard means by saying "the prisoner was perfectly conscious of his act, but became immediately excited and that roused his dormant impulses," can not well be determined, but it is obvious Dr. Robillard was endeavoring to explain some psychic phenomena of the prisoner to his own satisfaction. There is here, then, first a crime performed with great calmness, then great excitement, and then very great stupidity; but it may well be asked, does not this correspond ideally with certain epileptic psychic phenomena? The meaning of the paragraph, "The muddle in which the prisoner passed the greater part of his life made of him a most depraved character" is very obscure; perhaps it alludes to the prisoner's

* Canada Medical Record, December, 1881.

intoxication. It was obvious Dr. Robillard did not make a thorough examination of the prisoner, or he would have determined the same analgesia found by Dr. Howard.

According to the statement of Dr. Pominville, the prisoner was cool and collected after the murder, but was taciturn and morose naturally, and was debased morally and mentally, whatever that may mean. He evidently did not believe that the prisoner premeditated the act, or he would not have said that the prisoner at the time of the act never thought of wrong or right. If he did not weigh the consequences of the act, it was not premeditated, and by this evidence the theory that the act was more than impulsive receives a severe shock. It must be remembered, in weighing the value of the statement that "Dr. Pominville never saw any evidence of mental derangement in the prisoner," that in Canada, as in the United States, politics determine appointment to medical positions in jails, and that as a rule, mental derangement is not first noticed by the jail physicians, but by the keeper, who naturally requires tremendous evidence to make him believe that a convict, ill physically or mentally, is not feigning. Hayvern, however, was placed in the infirmary soon after his attempt to escape. While there he, as testified by Dr. Howard, asked the infirmary nurse to strike him on the head, and made many other strange requests to this man, who said he at first thought he was joking, but finally concluded that the man was mad. These facts, however, are not proof positive, for I have known prisoners to make prison-keepers believe them insane, but there always has been some question in my mind as to the existence of epilepsy in these cases. It is, therefore, evident that Dr. Pominville's testimony is not beyond impeachment on this point.

Dr. Gardner appears from his testimony to consider the man of a low order of intelligence but not an imbecile, although even from the standpoint of a low order of intelligence he is very stupid. How this differs from imbecility, I must confess I cannot determine. Dr. Gardner's reading respecting temperatures did not embrace the *Journal of Mental Science* nor the *Zeitschrift fur Psychiatrie*, nor the *Medical Record*, or he would not have made the statement that death must be impending if such a temperature existed. The same remark will apply to Dr. Cameron's evidence. As to Dr. Cameron's statement that a man must be the measure of himself, etc., a little reflection will show that while this is true in a very limited sense, considered as an absolute rule it is a failure. The primary mono-

maniacs are always monomaniacs, and the imbeciles are always imbeciles. The attempt to compare them with their former selves is an absurdity. This idea of change of character being an absolute rule is an enormous hindrance to progress, and has caused not a little injustice in forensic psychiatry. Dr. Cameron, in his editorial comments, seems to have forgotten that there is such a thing as an epileptic countenance and a pallor peculiar to epileptics, and that a sound and scientific diagnosis of epilepsy might be made on this evidence, although the patient was never seen in a "fit."

Taking into consideration that this patient presented an epileptic pallor, that he had a convulsive disorder during childhood and youth, that the alleged motive was baseless, that immediately after the crime he was at first cool and collected, standing perfectly still for a minute, and then markedly and violently excited, so that an intelligent observer (the Catholic clergyman) claimed that the man was maniacal, and the subsequent stupidity, the presumption that the crime was the offspring of an epileptic psychosis, seems the most probable one, but it must be admitted the case is a difficult one.

Apart from the testimony directly bearing on the case itself and from the question of temperature, the evidence on both sides was much more in harmony with the present state of medical science than the expert testimony of the more recent trials. The prisoner's statement that his aneurism was something alive which needed cutting out, was not necessarily a delusion. In a man of his intelligence, the supposition that it might be a parasite was a not unnatural one, and the belief that it needed cutting out was fully in accordance with many popular ideas on surgery. The prisoner was found guilty and executed.

The brain presented the following features: The Sylvian was united with the first frontal gyrus; there was a junction of the interparietal with the parieto-occipital and first temporal fissures; an extension of the calcarine fissure into the scissura hippocampi; a union of the collateral and calcarine sulci, and there was a fusion of the first frontal gyrus so that there appeared to be four frontal convolutions arising from the ascending frontal or anterior central gyrus. The results of this examination have but little value from an anthropological standpoint, and none at all from the standpoint of the alienist.*

* I must differ with the views of the learned Reviewer as expressed in the four last lines. True, the examination was valueless pathologically speaking, but cer-

The reader, having read the foregoing, will be in a better position to understand the following :

I have said that under the English law an insane man is not held responsible for his acts, indeed I believe this is the rule in all countries ; but the trouble is to prove a criminal insane, that is, to satisfy a judge and jury that a person accused of crime is insane. I failed to do so in the case of Hayvern, although I did my best not only to prove him insane, but an epileptic and an imbecile. His brain proved the latter, according to my definition of what constitutes an imbecile, viz., a teratological defect in brain structure.* That there was a

tainly of the very utmost importance from a teratological standpoint. The brain was not a normal but abnormal brain, an undeveloped brain, not that I by any means consider it necessary that the cadaver should reveal either teratological or pathological defect to prove that a man when living was insane, for, as I have already said, thousands of persons have lived and died insane and the cadaver has revealed no cause. But in this particular case the cadaver revealed, at least, teratological defect.

* During the early part of the sitting of the Court of Queen's Bench, when the unfortunate Hayvern was tried, same judge presiding, the same lawyer prosecuting, a man of the name of William Bulmer was tried for having premeditated and with malice aforethought discharged a pistol at the foreman of the establishment (Messrs. Lovell & Co.) in which he was employed, with the felonious intent of doing him grievous bodily harm. Bulmer was defended by Mr. W. Polette, advocate, a son of Judge Polette, and his defense was the plea of insanity, and he called upon me to prove to Court and jury that the man was insane. I visited the man in prison, carefully examined his features and his manner, spoke a few words to him and pronounced him insane. These facts, when the man was on trial, I stated to the Court and jury, adding that from the fact that I found him insane when in prison, a few days before, that he was insane when at the bar on trial, and from the evidence I heard in Court of how the man conducted himself at the time he fired the pistol, I had no doubt but that the man was insane when he committed the alleged crime, and that he acted from an irresistible impulse. My friend, Dr. Robillard, Government Inspector of the insane in the prisons of Montreal, differed from me. He did not think the man insane at all, nor that he acted from an irresistible impulse. Of course, none of the jail officials saw anything insane in the man's conduct while in prison. His Honor Judge Monk charged strongly against the prisoner, assured the jury of his very high opinion of me as a mental scientist, but at the same time warned the jury against accepting the dangerous doctrine of irresistible impulse. The jury found the prisoner guilty, that is that he was not insane. Mr. Polette, the lawyer for the prisoner, opposed sentence being passed, finally I believe had the indictment squashed, but this is of no interest, so far as the sanity of the man was concerned.

Well, notwithstanding my friend, Dr. Robillard's evidence, the evidence of the

defect in brain structure no one denied, and Dr. Osler admitted it was an abnormal brain, in answer to a question of mine, although such question does not appear in the published minutes of the meeting—indeed, the whole minutes are mixed up in a most strange manner. I only asked Dr. Osler two questions. One was, did he recognize the brain to be abnormal? To which he answered, yes. The other was, considering that the hospital was open to all classes of persons, was it not probable that in those in whom he found the brain to correspond with the atypical brain described by Benedikt, and not having any history of their social standing or character, might we not be justified in assuming that these persons belonged to the criminal class of society? To which he answered, we might assume it, more particularly as it was a fact that some of them had been prostitutes. I never asked any such absurd question as to how the brains were preserved. I say absurd, because Dr. Osler had informed the Society at different times that it was by Giacommini's

jail officials, His Honor's charge, and the intelligent jury's verdict, the man was mad, mad as a March hare, suffering from acute mania, and I knew it, but I could afford to bide my time. I knew that time would justify my diagnosis. But has it? Yes, the man, after being kept in the Montreal jail, in a state of insanity, from Sept., 1881, to June, 1882, has been sent by order of the Hon. Attorney General to the Lunatic Asylum at Longue Pointe, where I saw him this 12th of June, 1882, about as insane a man as there is in the asylum—mania in the chronic stage. I said my friend, Dr. Robillard, was Government Inspector of the insane of the prisons of Montreal; now, his duty is to recommend the insane that he finds in the prisons to be removed to the asylum, so I presume it was at his recommendation that Bulmer has been sent there. Of course, for a few days after the trial public opinion, through the papers, approved highly of the verdict, of the wisdom of the Bench, and the intelligence of the jury, in giving no heed to the plea of insanity and that most dangerous doctrine put forward by Dr. Howard of *irresistible impulse*. If such a plea was allowed, every scoundrel that wished could shoot down his neighbor, and then plead irresistible impulse. Much more of such nonsense was written which was not very complimentary to myself.

I hope now public opinion will express itself through the same medium, the press, and acknowledge its error, and that it will be a lesson to public opinion in future not to interfere in matters that it knows nothing about.

Although naturally pleased that time should justify me, I write this with no spirit of triumph, but to give another proof of the utter absurdity of our system—a judge and jury to decide whether a man is or is not insane, whether he is or is not legally responsible for his acts.

Surely no one can deny, but in this case justice made a great mistake, but not one jot greater than it did in the case of Hugh Hayvern, although it fortunately had not such a tragical ending.

method. Moreover, more than once I have had the pleasure of seeing Dr. Osler preparing these brains. In the course of this chapter it will appear that all my trouble in the case of Hayvern arose from the fact that neither judge, nor jury, nor doctors (at least judging by their evidence) had ever before heard that insanity was a physical disease, to be diagnosed by clinical symptoms; and that physiological and psychological symptoms were only effect of an anatomical cause, and an abnormal state of the mental physical organization. Now should my theory of insanity prove to be correct, the result will alter our whole teachings of Medical Jurisprudence, so far as the question of insanity is concerned; and assuming, as I must do, that my theory is correct, it is upon this hypothesis that I base my reasoning of the Medical Jurisprudence of criminal responsibility or legal criminality. Perhaps the better heading of this chapter would have been *THE PHILOSOPHY OF CRIME AND LEGAL RESPONSIBILITY*, but that is not of much consequence.

I cannot conceive any man being placed in a more unenviable position than is a medical expert when he undertakes to defend a criminal whom he conscientiously believes to be irresponsible for his crime, because that he is an imbecile or insane, or both imbecile and insane—in either case incapable to control by any effort of his will, or even have the will to control his insane or imbecile desire, or his insane and imbecile impulse. Society in the aggregate is a multiple of individuals, and, like unto individuals, subject to normal and abnormal states, depending upon various objective causes. Society likes excitement, likes anything that administers to its morbid curiosity. It delights in a good well hunted up and well discovered scandal, as when some frail one (loving, not wisely, but too well) strays from the fold and is lost. But society gluts and gormandizes over a murder, and the more brutal the murder the better for society. Society does not in reality care a row of pins for the victim, as exemplified in the case of Hayvern, who killed Salter, when they were both convicts in the Penitentiary of St. Vincent de Paul, Province of Quebec. When Salter was sent to the Penitentiary society was well pleased and said, served him right, every scoundrel of his sort must be punished, or what will become of society. Society is respectable, very; so, to show its abhorrence of crime, it shouted with the voice of a trumpet—served the scoundrel Salter right. But then, on the 29th June, 1881, society was again roused from its state of lethargy, and happy security. The telegraph wires flashed the news from St. Vincent de Paul that Salter,

the convict, had been cruelly and brutally murdered by another convict named Hugh Hayvern. Then society forgot all about the villain Salter, and the dead Salter became the poor Salter, and now society thirsted for the blood of Hayvern. Nothing less could satisfy it. Nothing must stand between society and Hayvern. Any one who dared to do so must be marked down as the enemy of society. Did not the "old women" of both sexes go to sleep at night and dream of Hayvern escaping from prison, and with a long, sharp knife, prepared out of an "old file, ground down and sharpened to a fine point, fixed in a rough wooden handle" (see *Canada Medical Record*, Vol. X., page 18, speaking for society) stabbing them all in the heart. So society could not rest till it had the blood of Hayvern. Society was also greatly excited at this time about Guiteau who killed President Garfield. So it cried out with a loud voice: whoever stands between Hayvern and death is the friend of Guiteau. So society worked itself up to a boiling-point—ice could not cool it down. *Reason* only added fuel to the flame. Nothing could cool it down but the blood of Hayvern. Then society got another terrible shock. It heard that a criminal lawyer of great repute was going to defend Hayvern, on the plea that he was an imbecile, and committed the crime without malice aforethought, without premeditation, but under an insane, uncontrollable impulse, and that he, the lawyer, had called to his assistance Dr. H., as an expert in mental science, to render him assistance, that he might, if possible, prove to the Court and jury, through him, that Hayvern was irresponsible for his act. So society literally boiled over and declared it would not be balked, it must have the blood of Hayvern, if for no other reason than to set an example to the American jury who would try that villain Guiteau. Society was not surprised at the lawyer, that, of course, was his business; but who could or would have believed that Dr. H. could be guilty of such a crime against society. Did he want to let that murdering villain loose upon society to murder some other innocent person? Whose turn would it be next? Where was the security when such a man as Dr. H. would try to save such a villain from the gallows? The very look of the wretch was enough to condemn him. Is he not described in the 10th Vol. of the *Canada Medical Record*, page 17, by one of society's thousand mouth-pieces, "as a stout, thick set, muscular man, twenty-eight years of age, with black hair and whiskers, small deep-set restless eyes, and a sullen dogged look." How could Dr. H. think of standing between this villain and the gallows? But to the different

mouth-pieces of society who kindly came to me, to warn me to have nothing to do with the case, I answered: The man is an imbecile and he is insane; and I believe he committed the crime under an insane, epileptic, uncontrollable impulse, consequently is not responsible for the murder; and for the sake of our common humanity, and for the sake of science, I must tell these facts to the Court and jury. "Stuff and nonsense," say society's representatives; imbecile or not, mad or not mad, let the fellow be hanged; it is the only proper thing to be done with him. Hang *every* murderer, sir, mad or not mad; that's my doctrine, and I speak for society, and I tell you, you are going to injure yourself by doing this thing which you are about to do. Already there are some strange things said about you. I have heard different doctors say you were an advanced materialist, meaning thereby an infidel, and one doctor of your own religion said every such murderer as Hayvern should be hung, because the old Book, which we all reverence and believe, said, "Whosoever sheddeth man's blood, by man shall his blood be shed: an eye for an eye, and a tooth for a tooth." After all this what could I say to satisfy society. Society never did listen to reason, she had enlisted on her side many other doctors, and they consequently wanted the blood of Hayvern. All I could reply to society was that in my ignorance I thought the blood for blood law had been repealed by another Law-giver, whose history was written in the same old Book. I also ventured to speak of the first recorded murder; that the murderer was not put to death, but, on the contrary, a mark was put upon him, "lest anyone finding him should slay him." All to no use, society had made up its mind; it wanted the blood of Hayvern and the blood of Guiteau. I tried to make them understand that to a very great extent society was itself responsible for much of the evil that it complained of; that for thousands of years the only remedy society provided to arrest crime was punishment, and that society was blinded by its own prejudice; that it would not see that punishment was a failure, and worse than a failure, that it increased crime; that, in fine, society never attempted to make a scientific investigation and find out what was the cause of crime. They saw effect and assumed they knew the cause, and although they were, in truth, perfectly ignorant of the cause, on their absurd assumption they followed up the treatment of their pagan forefathers,* and

* In the days of Epicurus, that philosopher that lived 341 B. C., physical suffering was considered the most conceivable of all evils, and it was believed that punishment, that is, the infliction of physical suffering, was the best preventative of

thought they could arrest crime by punishment, and that by punishment, seasoned with hypocrisy, they could make a good man out of a bad man, a normal out of an abnormal man. So society went on punishing and so crime increased; and now when science tells society that every man is what he is in virtue of his physical mental organization, society is shocked, and turns its eyes skywards to see why a thunderbolt does not strike down the presumptuous scientist at the feet of society, but it doesn't. There is no thunderbolt, so poor society stands amazed and sorrowful.

I have written thus much, as the best illustration of what any medical expert has to expect from society who will dare to come

crime, but that the certainty of punishment was a greater deterrent than the severity.

Now the criminal code of to-day is just where it was two thousand years ago, and yet we boast of our Christian civilization—we should rather call it our non-Christian civilization. All our laws are based upon the Roman law, yet our pagan forefathers never even dreamt of the crimes that have to be dealt with in the present day.

But society will say, we have been educating the people for the last fifty years, and education should diminish crime. So it should to a degree, but not the sort of education the people are receiving: it is producing the very contrary effect; it is increasing crime; it is creating in the people a spirit of bigotry and fanaticism—a spirit of envy, hatred and malice, a spirit of rivalry, of competition, and of the most gross extravagance; it is creating a spirit of oppression, and causing unjust and oppressive taxation upon the people; it is rendering the people more narrow-minded and more prejudiced.

The man of sixty years ago who could not write his name was not half as ignorant as many of the so-called educated men of the present day, because the man of the past learned from nature and studied her laws, where the man of the present knows nothing, practically, of nature and her laws.

Pride and extravagance is the order of the day, and our system of education is responsible for it: our educational institutions are built extravagantly, not for the comfort and health of the students, but for show, for competition, that they may be seen and spoken of by strangers. Then the yearly exhibition in all our schools, they are simply a *show*, a public show of extravagance,—parents virtually plundered that schools may have a good public show.

If our present system of education was a preventative of crime—crime in its vilest forms—then money should be paid liberally for it. But all statistics show that it is not a preventative, that crime keeps pace with education, therefore the sooner our present system is broken down the better.

There never will be a sound system of education that is not based upon natural laws. There never will be a remedy found for the prevention of crime till we recognize the scientific fact that every man is what he is in virtue of his physical organization.

forward in the defense of an unfortunate criminal to defend him on the grounds of insanity or imbecility.

ADVICE TO EXPERTS.—I will suppose the expert, as in duty bound, takes means to learn the history of the accused man. This the expert will find no easy task. He must get from friends and acquaintances all he possibly can of the history of the accused, from his childhood up to the date that he committed the crime of which he is accused. In doing this he must be cautious to ask no leading questions; for friends will naturally be cautious, and try to discover, by the questions asked, what answer is expected, such as would be favorable to the accused; consequently he will, as a rule, find better information from acquaintances than from the immediate family. On the other hand, the expert must be very cautious as to how much weight he gives to the reports he derives from any person who may be justly or otherwise prejudiced against the accused. All the information he thus receives, whether of the accused himself or of his parents or relatives, should by him be carefully noted; then without bias, and with the simple object of arriving at truth, search into the question of hereditary taint or predisposition as heredity or predisposition to insanity, as it is now no longer a mere hypothesis or theory, but a settled scientific fact, and so far confirms my view of the *physical* nature and cause of insanity, which is one of the main objects of this essay—the proving that mind and body are *one* operatively, though not essentially.

He should also be most particular to learn the habits of the accused, particularly whether he was, or was not, an habitual drunkard; bearing in mind that habitual drunkards establish in themselves an epileptic neurosis, which they very frequently leave as an inheritance to their offspring, and that this neurosis may develop itself either in epileptic convulsions or in impulsive maniacal attacks. He should also bear in mind that his mental organization may be the cause, not the consequence, of his inebriety; that the lower the organization, supposing him to be an imbecile, the more likely, from abuse of alcohol, is he apt to become an epileptic. After the medical expert has obtained all the information he possibly can of the life of the accused from his infancy up to the time he committed the crime of which he stands accused, and the history of his parents and relations, his next step should be to go and examine the Police sheet, to learn if the accused was an habitual criminal, or an habitual drunkard, and if found to be so, what were the peculiar characteristics of his crimes,

and what punishment he received for his crimes or crime, supposing it to be his first crime. His social position and surroundings should be also taken into consideration.

Now, why should the expert take all this trouble? Because if a well-read man, a man of experience, he knows from his observations of the imbecile, the insane and the sane man, that one of his best guides as to a man's mental condition is his *conduct*. He knows that the idiot and the imbecile are each such as they are in consequence of abnormal physical organization, teratological defect; that the man of ordinary intelligence is such in virtue of his normal physical organization, and that the man of extraordinary intelligence is such in virtue of the same endowment. He knows that a man's actions are prompted by his physical organization, and he, the expert, is therefore to a great degree enabled to decide the measure of his mental capacity and his peculiar propensities whether to this virtue or that vice, and by his *conduct* is he judged as to his sanity and legal responsibility.

If the experienced educated expert finds the history of the man upon whose mental state he is called upon to adjudicate to be that he had what his parents called epileptic fits or convulsions when a child of eight years old, or at any other age; that from the age of ten till twenty-eight he had been an habitual drunkard and habitual criminal who could not be controlled either by parental entreaties or fear of punishment; that he preferred a vagabond life without shelter from cold and the inclemencies of a Canadian winter, choosing to spend the greater part of his life in the highways and byways rather than in a comfortable home; that he was a real Ishmalite, his hand against every man and every man's hand against him. Under such circumstances, with such a history, the experienced expert will find no great difficulty in giving such a man, even before he sees him, his place in nature.

He knows from experience that no man leading such a life could have a normal physical mental organization, that it would be actually impossible for an ordinary intelligent man to lead such a life, therefore he will at once conclude such a man must be an imbecile, must be a man with an abnormal mental organization, teratological defect; whether it be an abnormal brain, as pointed out by Benedikt to be found in the skulls of every great habitual criminal, and which I call imbecile, or asymmetrical brain, or whether it be some abnormal state of some other portion of the mental organization, not so easily demonstrated in the cadaver, or perhaps not demonstrable at all.

Such was the history of the man Hayvern, who killed Salter in the Penitentiary, and when I learned the history before I saw him, I had no difficulty in giving him his place in nature, a low imbecile, whose mental organization, anatomically speaking, approached nearer to the ape than the ordinary intelligent man ; a type of a man whose antetype is to be found in numbers in every imbecile asylum, and who are saved from being criminals because they are deprived of the opportunity. But suppose that the man accused of murder, or some other horrible crime, or attempt at murder or some other horrible crime, that the expert is called upon to adjudicate upon his mental state, should have previously to this crime led a most exemplary life, living in obedience to all the known natural and social laws : what assistance would the history of such a man's case be to the expert ? The educated and experienced expert recognizing that the mind of man, as we know it, is the product of matter, as we know and define matter, and that man's actions are the outcome of his physical organization ; that the matter which produces the mind is subject to physical changes, rendering matter which heretofore was normal abnormal ; recognizing these facts, he would naturally conclude that as the man's whole nature had changed, such change must be due to pathological change in his mental organization, whether mechanical or chemical, so that he could no longer direct or control his actions by his will ; in fact he must conclude that the man was insane when he committed the crime ; that, otherwise, it would be impossible to conceive such a man committing such a crime. The experienced mental scientist knows how little it takes to change a man's whole physical organization from a normal to an abnormal state. It may be a spoonful of brandy or whiskey, a whiff of carbonic acid gas, of chloroform or ether, or, as an esteemed young medical friend wrote to me, after hearing my reply to the question, " If a wicked man became converted, did I attribute it to a physical change in his mental organization ? " My reply was, " Yes. " " I fail to see why the members of the Society should have laughed at your reply to question ; but I recognized at once the fact that not one of them could have been familiar with the writings and views of such men as Tuke, Rutherford, Bain, etc., or they would have known that in this respect, at least, you were in perfect accord with writers of that stamp. I do not pretend to know much of insanity ; but when I think of the vast results that come not from minute but *indiscernible* nerve alterations, I do not see why decided perma-

nent changes in a man's thought and conduct cannot flow from similar permanent changes in his brain matter. What constant definite anatomical tissue alteration results from a dose of 3 of shelic acid or 1 gr. of aconita, or a dose of scarlatina poison, or concussion of the spine? Absolutely none, yet all the serious train of symptoms that arise in each case is the direct result of some subtle and unobservable alteration in the tissues of the brain and cord." The reader will now understand what I mean when I say that should the expert find the history of the criminal upon whose mental capacity he has been called upon to adjudicate such as the hypothetical case that I have assumed, he will naturally conclude that the man must have been insane when he committed such a crime; that his crime itself would be a proof of his insanity. Those gentlemen who declaim against this assumption as something that shocks society should do something more than declaim, they should propose some rational means of solving the problem of what is the cause of man's "mental obliquity." What we want is not what society cannot afford to admit; but we want an explanation of cause for effect. Any one can declaim against thieves and rascals, any one can call out for hanging, flogging and all other sorts of punishments, but that is not science. What we want is a scientific definition of cause for effect. Declamation does not remove doubt, and I have invariably found the loudest declaimers to be in reality the greatest doubters. I would recommend these gentlemen to take a lesson from St. George Mivart, when he says, "When any man has become a victim to doubts he has no rational choice, as he has no duty but to reason out his doubts to the end; to seek to escape them, by calling up a cloud of *emotions*, is not only useless, but blameworthy."

The expert having learned the general *conduct* of the accused, his next duty, assuming the case to be murder, will be to learn all he possibly can of how the crime was committed, with what instrument, whether with a weapon usually in the possession of the murderer for any ordinary purpose, such as an axe, a crowbar, a spade, etc., or an instrument which the murderer was not lawfully entitled to carry, such as a pistol or dagger, which, if in his possession, must be either for self-defence or murder. He must learn what were the surroundings of the accused when he committed the crime; whether the accused could have a reasonable hope of concealing or otherwise escaping from the consequence of his crime. He should as far as possible also learn whether there had been any previous quarrel between the accused and the murdered man, and if they had been on friendly terms; whether the accused

could have had any object or motive in view, such as to gratify revenge for a real or supposed injury, or expect he would derive any benefit from the death of the murdered man, such as inheriting money or property. He should learn how the accused behaved himself immediately before and immediately after he committed the crime. He should also learn as to his general state of health, and whether he slept well or ill before or since the murder. To obtain all this knowledge he should have recourse to the evidence given at the Coroner's inquest. I would warn him to be cautious how he receives any statement of prison or court officials, not that I would imply that such persons would willfully state that which was wrong, but that from their very surroundings they are led to look upon all accused persons as guilty persons. Then they are Government officials, and they know they will be called upon by the Crown to give evidence against the accused, and whatever they say must not be in favor of the accused. They know they will lose nothing in the estimation of the Government or the estimation of the public if by any evidence of theirs the accused is condemned to death, consequently they too often consider it their duty to play the spy on the accused, and, under the pretence of friendship, get the accused to make a confession to them, that they may use it against the accused when on his trial. We had an example of this in the trial of Hayvern; indeed up to the hour of the man's death every effort was made to get him to confess and declare a lie, that he premeditated the act and killed the man for revenge. But the dying man refused to lie, and to the last declared he had no ill-will against the man he killed; he did not premeditate the deed, he had not the knife for that purpose, and he did not know why he had killed the man. It appears the same game of spy has been practised upon Guiteau. Again officials know that under our law the Prosecuting Counsel has to assume the accused guilty, and to leave no stone unturned to prosecute to the death, and they know that he expects every assistance from officials to enable him to secure a conviction. Therefore it is that I would warn the expert who goes forward to give his testimony for the accused to be very guarded in what he says to legal officials, and to weigh very cautiously what information he may get from them that may be against the accused.*

* In the *Journal of Mental Science* for April, 1882, page 35, there is one of those powerfully written articles, by D. H. TUKE, M.D., F.R.C.P., designated, *Mental Experts and Criminal Responsibility*, from which I make the following extracts:

"As regards Lord Campbell's dictum, I shall venture to interpret it to mean,

The expert having learned all he possibly can with regard to the actual perpetration of the crime, if he finds that it has been sudden and violent, like an animal springing on his prey, will naturally look to find in the accused an epileptic neurosis. This supposition will be strengthened by the immediate action of the murderer after committing the crime. He will hardly alter his position but stand like one surprised, like one who does not realize the enormity of his act, and if the crime was committed under an insane or epileptic impulse, he does not for a moment realize the enormity of his crime. He is, at the moment, stunned by the violence of the nerve explosion which impelled him to the crime. Thus was it with the man Hayvern when he stabbed Salter. He seemed at the moment stupefied, made no attempt to escape, but walked off quietly to his cell. After being there for a while he seemed to begin to realize what he had done, and the first effect of it was a poor attempt to cut his throat; but, like all his class, he was too great a coward to do so. But he wanted some one to kill him at the moment, and encouraged the acting warden

not that science should be held to possess hardly any weight, but only science as now seen in the "witness box," "cribb'd, cabbin'd, and confin'd," by legal conditions unfavorable to her powers, conditions, as I shall show, as unnecessary as they are injurious, seeing they do not exist in some of the countries of the modern world. So far, then, from being disheartened by Campbell's opinion, I am confirmed in the judgment that our present system works badly, and that it is time we should endeavor to rectify it."

"Having considered the position of an insane prisoner before the magistrate, let us now regard him before the judge and jury at the ASSIZES. The plea of insanity is set up. If the jury find him unable to plead on arraignment (39 and 40 George III., cap. 94, sec. 2) he is sent to Broadmoor until he recovers, or so long as he remains insane. If, on the other hand, he is considered fit to plead, one or more medical witnesses are called by the defence to establish his insanity. Probably counter-evidence by the prosecution to show that the accused is of sound mind. The surgeon of the gaol, if called, is called by one or other side, according to the opinion he holds. As is natural under the circumstances, counsel on both sides do all in their power to perplex the medical witness in cross-examinations, and the subject is treated as if it were as easy of determination and of a reply—yes or no—without qualification, as the dimension of a wall or the soundness of a piece of timber.

Under such condition—science converted into a partizan and medicine into an advocate—the question of the criminal responsibility of the prisoner is considered and is fully decided by the jury, can I ask, the present method of ascertaining criminal responsibility in our courts of law be improved.

Is it not, as I have intimated, inadequate and inconsistent; is it not an inconvenient and unsatisfactory method of procedure for scientific witnesses to be

to fire upon him with his revolver. But suppose the expert in his examination should find it, as a fact, that the murder was actually premeditated, planned and executed, as in the case of Guiteau's insane desire, and every effort made at concealment, would that be a proof of the murderer's sanity? Even to go further, let us suppose that the murderer knew the nature of his act, would that be proof of the murderer's sanity? No. An insane man is as capable of premeditating, planning, executing, and concealing his crime, or trying to do so, as is a sane man. That the expert must bear in mind and not conclude because of the premeditation, etc., that the man was sane. In such a case the expert will be driven to look for motive, and if the murderer be insane, nine chances out of ten but he will trace the motive to some insane delusion of the murderer, such as that he was persecuted by the murdered man, who was always after him day and night, accusing him of being guilty of the most horrible crimes, and threatening to kill him, etc., or, like Guiteau, impelled by God to commit the crime, or the expert may trace the cause to jealousy. When insanity assumes the psychological phase of jealousy, whether in the man or woman, the insane person will as coolly

called by the defence and prosecution instead of the Court itself; is it not to place science in a totally false position; is not the result likely to be partizanship, however improper it may be that it should have this effect on men of science; is there not something in the very atmosphere of a law court (possibly sophisticated germs) with which the scientific witness too often becomes contaminated—the evil communications of the advocate corrupting the good manners of the physician; and, apart from all this, are not oral evidence and a captious cross-examination little suited for a subtle disease, and the education of truth in regard to it?"

"I would here recall the fact that a great amount of time is wasted in the examination of a large number of medical witnesses, when the report of two experts would occupy very much less time; that the value of the opinions thus procured is infinitely less than if obtained from men selected for the purpose."

"I wish to secure a calm statement in *writing* in the first instance, but not to avoid a fair questioning afterwards—judicial, not captious; and I bring forward this as well as the other proposals, as putting in a claim for science before our tribunals in the interests of humanity."

Those who were present at the trial of Hayvern will remember that I proposed to read my report to the Court, and then submit to be questioned, but the Crown Prosecutor objected, and of course the Court refused.

"When Dr. Howard entered the witness box he held in his hand a voluminous document, which was promptly challenged by Mr. Davidson, and disallowed by the Court."—*Canada Medical Record*, Vol. X., page 38.

and deliberately plan the murder of their supposed rival, or of their wife or husband, as the case may be, as they will prepare to go to bed and coolly execute the murder ; and yet such insane persons, although wholly insane, show no other symptom of insanity, I mean psychological symptoms. There are at this moment in the Longue Pointe Lunatic Asylum two most remarkable cases of this type, one a man, the other a woman. The man would kill his wife, the woman would kill her husband, or some one else ; yet they present no other psychological symptoms of mania, and it is an undoubted fact that the woman's husband is a man of the most exemplary character, and the man's wife a woman of equally good character. The proof of the insane delusion consists in that neither of the unfortunates are jealous of any one in particular, but of every one in general. Now under our law, if either of these persons committed murder no person could save them from being hung, for they do know right from wrong, and they would know the character of their crime, and they would not act from impulse but from premeditation, yet are they both insane, from the tops of their heads to the soles of their feet. They are not imbeciles, they are not criminals, socially ; they belong to a respectable class of society, and were persons of ordinary intelligence before they became insane, and from present appearances they seem likely to remain insane the rest of their lives. If either of these committed homicide they would simply plead justification. Insane imbecile homicides always plead justification, or "I could not help it," or "I have no knowledge of it."

The next step to be taken by the expert is to make a personal examination of the accused person. In the advice I here offer I must assume that the expert accepts my definition of insanity and imbecility. To the expert who does not recognize these facts I would be talking in the same unknown language that I did to the medical men employed by the Crown in the case of Hayvern. They expected me to speak by the book, and did not understand me when I spoke from my observations of nature, and experience. They expected me to follow the books written upon medical jurisprudence, recognizing that there was a distinction to be drawn between what they call medical insanity and legal insanity, and were disappointed to find that I recognized no such definition, that I only pretended to say if a man was, or was not, insane, was or was not an imbecile. They expected me to recognize the book classification of insanity, such as moral and intellectual insanity, the monomania of sus-

picion and the monomania of pride, religious mania and partial insanity, and did not understand me when I denied all these as forms of mania, but simply as psychological phases or symptoms of mania. They did not understand me when I said that a man to be insane was wholly insane, that man had but one mind, a unit, the product of matter, and when that mind was abnormal it was altogether abnormal, differing only in degree of abnormality. The matter in one case being simply in a more abnormal state than another, either from mechanical lesion or chemical change in some part of the mental organization. They expected me to speak of mind and consciousness, as the books they had read spoke of mind and consciousness as something incomprehensible, something beyond the sphere of medical science, and could not understand me when I said the mind of man, as we know it, is the product of matter, as we know and define matter, and that consciousness was an organ of the brain in which terminated the afferent sensory nerves.

They had read in books that the knowledge of right from wrong in the abstract constitutes responsibility, and could not understand me when, in accordance with the views of Dr. Bucknell, I maintained that "responsibility" depends upon *power* and not upon knowledge and feeling, and that a man is responsible to do that which he *can* do, not that which he feels or knows it right to do.

They expected me to speak by the book, and go over the old worn-out track, and evidently prepared themselves for the encounter by reading up the different authors on medical jurisprudence—indeed they were all professors in one or other of the different numerous universities, on Medical Jurisprudence, and, therefore, it is to be presumed, could speak by the book, and the book only, for they had no experience. Therefore, they did not understand me when, speaking from my own experience, I said, "body and mind were *one*, and that insanity was a physical disease." In fact, in so far as they were concerned, I was speaking in an unknown language.

No wonder, therefore, that the three experts on the part of the Crown should give the answers they did. I quote from the *Canada Medical Record*, as reported by one of the experts: "Assuming all the evidence that had been adduced in the case to be true they were asked to give an opinion on the following points: *1st.* From the evidence adduced does it appear that Hayvern is an imbecile? *2ndly.* Is he an *epileptic maniac*? *3rdly.* Does it appear from evidence that on the 29th June the murder was the result of an irresistible

impulse on the part of the prisoner? 4thly. On the 29th June was the prisoner capable of *distinguishing between right and wrong*? 5thly. Throughout the trial has sufficient evidence been brought forward to prove the prisoner's *insanity* and irresponsibility? In reply to these queries the three medical experts testified that in their opinion sufficient evidence had not been adduced to prove that the prisoner was either an *imbecile* or an *epileptic* maniac, or that the murder was the result of an irresistible impulse; they believed that at the time of the murder he was quite capable of distinguishing between *right* and *wrong*; they furthermore did not consider that the evidence was sufficient to prove the prisoner's insanity or irresponsibility." No one but must admit that the questions were well chosen and carefully put by the Counsel for the Crown. It must be also admitted that the three experts were explicit in their reply, they took in their position at once and saw that every thing depended on the manner in which they replied to these questions. They had heard me over and over again say that I assumed Hayvern did *know* right from wrong, as the *majority of insane persons knew right from wrong, but that the knowledge of right from wrong did not constitute sanity or responsibility*. But they answered in such a way as to leave the impression on the Court and Jury that the knowledge of right from wrong constituted sanity and consequent responsibility, so did the Counsel for the Crown understand it, so did the Court understand them, and so were the jury impressed upon by both Court and Counsel.

Soon after Dr. Vallée gave his definition of epileptic mania, Vol. X., page 58, *Canada Medical Record*: "Dr. Howard arrives at the conclusion that the prisoner struck the blow while under a fit of epileptic mania, and consequently could not be held responsible for his act. Admitting this hypothesis the fit must have been epileptic dizziness or veiled epilepsy (I called it veiled or masked epilepsy)—now the unsettled state of mind, the obtuseness of its ideas, the confusion of souvenirs are the essential characteristics of such attacks."

No wonder he could not see that I had established that Hayvern's act was an insane, epileptic, impulsive act.

In the same Vol., page 65, Dr. Cameron gives his definition of insanity. "*A man must be the measure of himself, his mind must be the standard of comparison by which to determine his sanity or insanity, responsibility or irresponsibility*. The only safe way in such cases is

to compare the individual with his former self: any measures which divert the attention of the medical man from this, his principal duty, are detrimental rather than helpful."

The italics are mine.

Hayvern was simply Hayvern from his boyhood to his death, as it appears to me that Guiteau was always Guiteau, and will be so to the end of the chapter, whatever that end may be, and it appears pretty certain that he will be hanged, and we will have another criminal or imbecile brain to add to the number already existing.

I have written sufficient to prove to the reader the correctness of what I have stated, that the experts for the Crown in the Hayvern case did not understand my evidence, when I spoke of clinical symptoms in insanity.

ASSUMING that the expert reader recognizes my definition of insanity, I would recommend him when he goes to make a personal examination of the prisoner to remember that he is in a prison, surrounded by prison officials, and, if possible, to have none of these officials present. The prisoner, naturally, would be suspicious of them, and their presence would make him suspicious of the expert, and render him uncommunicative. This would be no proof that he was not insane, for an insane man can be as suspicious as a sane man. The expert should divest himself of all feeling in the matter, so as to have no bias one way or the other, but simply to arrive at a knowledge of the mental state of the prisoner, that he may make a correct report to his lawyer. Bearing in mind, from the reasons already given, that the face is the index of the mind, his first examination should be physiological, to read the face well, and remember the first impression made is the most important. If the expert be a man accustomed to the insane, and, as it were, living amongst them, at the very first look he will see whether the man is or is not an imbecile, is or is not insane; he will see it as plainly as the child does pleasure or displeasure in the face of their parent or teacher, no matter what effort the parent or teacher may take to conceal their feelings. He will see it, as plainly as the wife does anger depicted in the face of her husband, or the husband sees it depicted in the face of the wife. Memory will supply him at once with numerous cases of which the person before him is the antetype, so it was with me the moment I saw Hayvern, and in my report to his lawyer, Mr. Curran, I made the following statement as reported in the *Montreal Gazette*, Oct. 6, 1881:

"On the 26th of August, 1881, I visited Hayvern in the prison of Montreal. On the first view of the man I was struck with the palor of his countenance, one great proof of the epileptic neurosis. [Explains neurosis as a man's peculiar nervous state from heredity, or he may make it for himself by drink.] Remembering the physiological fact that "the face was the index to the mind," I studied it well, not only when I was speaking to him, but while conversing with Mr. Payette. *It was a blank face to look upon. It did not reveal intelligence; moral, insane cowardice was portrayed on it; intellectual and moral imbecility was stamped there; there was not one symptom to shew that I was looking into the face of an intelligent, reasoning being; there was not one mark to show that intelligence ever did exist there, or, if ever, it had been obliterated. There was nothing to shew that even in childhood it had been a cheerful happy countenance. It was animal, purely animal, and that an animal of a very low intellectual organization. I never saw a face more completely portray a low animal desire, uncontrollable by any force of will.* Looking upon his face I could not conceive that he ever used his will except as it was guided by his desire. I could not conceive that a generous thought ever existed in his mind. I was not surprised at the character I got of him when I looked upon that face, and I said to myself, surely that man *is the victim of his organization—evil to him is good—he is intellectually and morally insane—a veritable imbecile.* Such was the impression left on me by my examination of the face of Hayvern."

Was I correct in my physiological reading of the face of Hayvern? Dr. Osler answered that question when on Friday evening, the 6th of January, 1882, he, before the Medico-Chirurgical Society, produced the brain of Hayvern, and pointed out that it was an atypical brain, a type of the criminal brain as written upon by Benedikt, a brain which in its formation more nearly approached that of the lower animal, the *ape*, than it did the brain of a man with ordinary intelligence. Again I quote from the report in the *Canada Medical Record*, Vol. X., page 19: "On cross-examination, Dr. Howard affirmed his ability to diagnose imbecility by *inspection*." These facts explain to the reader, to my supposed expert, how he should make his physiological examination, and how important it is for the mental scientist to make a careful study of the face of all persons, particularly the faces of idiots, imbeciles, and insane persons; and I would particularly recommend, when opportunity occurs, a close study of the faces of the criminal class of society which are found in our Jails and Peni-

tentiaries. Such a study will well repay the mental scientist. Let him always bear in mind that there can be no physiological effect without anatomical cause, and if the face be the index of the mind, it is from the anatomical fact that the motor nerves of the face take their origin from the most intellectual portion of the brain.

After the expert has concluded his physiological examinations he should next proceed to his psychological examinations; indeed his psychological examination may be going on while he is making his physiological examination. By this time the prisoner will have become accustomed to his presence, and will probably enter into conversation with him. The expert should give a lead to the conversation: talking upon any subject except the one he is thinking most of; at the same time, however, without letting the prisoner observe it, he should be carefully watching every motion of the prisoner. There is an extraordinary feature that I have observed in all insane persons, and that is they are always trying to act sane, and sometimes they succeed so as to deceive the very best experts. Guiteau succeeded so well that he not only deceived the judge and jury but many experts. They could not see that his very boast of being sane was a proof that he was insane. One of our Montreal papers very gravely informed its readers, after Guiteau had been found guilty: "Why the man doesn't pretend to be insane," as if any insane man *pretended* to be insane. How can a man pretend to be what he already is? Very frequently when examining patients in the Asylum, to see if they are fit to be discharged, I am puzzled to know, in some particular case, whether sanity has been recovered or not, and only by a chance word or act, on the part of the patient, are my suspicions or doubts, with regard to the question, decided and settled, *i. e.*, as to *perfect* recovery. Thus, it is often, by little acts and words, that the expert, making a psychological examination of the prisoner, will discover symptoms of insanity. It does not necessarily follow that insanity should reveal itself in wild or violent behavior, as when prisoners suspected of insanity act in this way I always suspect *sham*, for it must be remembered that those who sham, or try to sham, insanity, it is in psychological symptoms, and those only, that they can feign; and in ninety-nine cases out of a hundred they over-do it, and are thus discovered. And here I would again speak of Guiteau whose trial is now over, although not yet sentenced in accordance with the verdict of "guilty" pronounced by the jury before whom he was tried. Seriously I do not think this

man was at any time ever feigning or playing a part; he was veritably and simply what he appeared to the public, the bona fide Guiteau, an unintelligent "crack brain," but no more responsible for his actions than is the most evident maniac in the Lunatic Asylum with which I am officially connected. I consider him as a man with an imbecile teratological brain, subject to recurrent attacks of mania, which, when he killed the President, developed into a homicidal tendency. Having read all the evidence in his case, it appears to me he gave sufficient evidence of insanity, for a long time before he committed the crime, to justify the authorities in locking him up in an insane asylum. Had that been done he would have gone on with the same insane talk and actions in the Asylum as he exhibited in the law court. The only difference would be that the public would, after a time, be unanimous that he was no sham, but a genuine maniac. It is purely on conduct and psychological symptoms that lawyers rest in their badgering of medical experts, whom they sometimes outrageously insult by the impertinence of their silly questions: "Do you deny, Dr., that a sane man could not do this, could not do that?" Lawyers always beg the question, and in abstract questions, assume the possible, instead of the probable. But of this I will speak again. For the psychological symptoms of Hayvern, they were very few. Sufficient were they, however, to satisfy me, although not a prosecuting counsel. The following is from my report taken from the *Montreal Gazette*:

"Psychologically there was not much to be observed. He spoke but very little, and that little did not show intelligence. He said "there was something alive in his belly," which he asked the doctor to cut out. In reply to the question "Did he sleep?" he answered, "No, he could not sleep." He complained of being tired; he wished to sleep. Here I may remark that when I asked the keepers in charge if he slept I was told he was seen every half hour and whenever spoken to always answered, showing that he did not sleep. Want of sleep, that is, insomnia, is one of the most marked symptoms of insanity. His manner portrayed nervous excitability, picking up bits of thread and dividing every fibre; he did not attempt playing a maniac, but all his words and actions portrayed a creature of impulse, who would be guilty of any impulsive act."

Next comes the pathological or clinical examination of the accused. And here I would remark that I believe I am the first person who has advanced the theory that insanity is the symptom of a

physical disease; in fact, that abnormal mind, which insanity is, is the outcome of abnormal *matter*—*teratological* matter in the imbecile, as in the case of Hayvern, *pathological* in the insane—from either mechanical lesion or chemical change, in some part or parts of the mental organization. If any one before me has made such a definition of insanity I am unaware of the fact; and I presume that if such a definition had, by any writer on the subject, been previously given, some one of the numerous experts employed in the case of Guiteau would have spoken of it; and it is because there has been no such definition that experts seem to have trusted solely to psychological symptoms—consequently, the great difference of opinions between experts in their evidence. The only one that hinted at an abnormal brain was Dr. Spitzka, and he was, as I have already stated, insulted and called a “*horse doctor*,” because he was known to be a student of morphology and zoology.

I would recommend the expert to make, as I did, in the case of Hayvern, a most particular clinical examination of the whole vegetative and animal organization of the person to be examined; beginning, however, by finding out, from himself and guardian, if he does or does not sleep. I consider insomnia as a most important symptom in the insane, not in imbecility, unless accompanied by insanity, but in the insane. I will best explain my views by giving an extract from my report of my clinical examinations of Hayvern.

In my pathological examination I found not only his face but his whole body anæmic; that is to say, he was not making sufficient blood for the healthy support of his system; perspiration was pouring from every pore in his body, cold and clammy; his pupils were round in shape, but sluggish in action, and his organs of locomotion were *normal*, that is, there was no paralysis of the motor nerves. Pulse, 110; normal pulse would be about 70; axillary temperature 93.4-5, normal temperature 98.2-5; respiration 36, normal respiration 18. Radial artery, that is the pulse in his wrist, was observable, and could be seen pulsating. Abdominal aorta, that is, the large main artery from the heart, was clearly visible when he stood, sat or lay in a recumbent position; this is the something alive in his bowels which he wished removed. Five days after, on the 31st of August, my examination was continued. I found his pulse at 100; temperature, 92.2-5; respiration, 36; heart sound at base normal, at arch of aorta something like a bellows; sound, apex of heart; first sound, strong; second, weak; sound in the abdominal aorta, abnormal. These are

the sounds that Dr. Pominville so ably described to you, and are frequently found in persons of an epileptic neurosis, but they may be early symptoms of aneurism. Here, however, is an abnormal state of the vascular system, of which the proprietor is not to be envied, caused probably by his fall from the roof of the prison ; but whatever the cause, it is sufficient to produce, at least, functional derangement of the mental organization, if not organic, to account for the man's actions ; and then, when we consider what a weak mind he has proved himself always to have had, it is the easier to understand what havoc such a diseased vascular system would produce upon such a mental organization. I examined the nervous system by means of electro-magnetism and an æsthesiometer ; I found all the motor nerves normal, but I found all the sensory nerves, particularly along the sensory tract, *abnormal* ; that is to say, analgesic, partially paralyzed. This, you will remember, is one of the unfailing symptoms always to be found in the insane ; this is a symptom that can never be feigned, no more than can temperature, which is always below par in the insane, except where there is fever, which is by no means a symptom of insanity.

After the death of Hayvern, and after I had published some remarks from Charcot, supplied to me by my friend Dr. Workman, of Toronto, the father of Canadian alienists, upon old age or low temperature in the insane, Dr. ——— tried to make it appear that as I did not take rectal temperature in the case of Hayvern my observations were "utterly worthless." Now I do not admit this from the fact that according to my theory of insanity it is not central algidity, the presence of which is all-important in other diseases, but external algidity, which is the important symptom. Therefore in the clinical examination made by the expert axillary temperature is quite sufficient. Moreover, it is not every insane man that would submit to having his temperature taken per rectum, nor for that matter not every sane man, except he was actually in a state of collapse. If it were possible I would recommend the expert to make four or five examinations, not as a necessity for him to diagnose his case, but to be prepared to meet objections raised by the prosecuting Counsel. For example, the pulse is not at all a symptom of insanity, but it is well to take it if only for the very purpose of showing it is not a symptom, for in insanity we as often find normal pulse, normal pupils and normal respiration and normal digestion as we find any of them abnormal, and when we do find them abnormal their abnormality is

not a cause or a consequence of the insanity, insanity being solely dependent upon the whole nervous system, yet as I have already said it is well that the expert for the defence, should take every precaution, for if there is one broken link in his armor, the prosecuting lawyer will find it out.

When the expert has completed his pathological or clinical examination of the prisoner he should carefully examine all his notes, and then make an exhaustive report to the lawyer who has called upon him for his services. He should be most cautious that the lawyer should know his views in every particular, and why he drew the conclusions he did from the history of the prisoner and his personal examination of him. I did so with Mr. Curran, who defended Hayvern. My report covered over twenty-five pages of foolscap, closely written, which I concluded as follows :

Judging the mental state of John Hayvern by his conduct, by his physiological symptoms, by his psychological symptoms, by his pathological symptoms, I do not hesitate to declare him to be a man of unsound mental organization ; that he is intellectually and morally insane—a mere creature of impulse, and if he did kill Thomas Salter in the manner in which he is said to have done, he killed him while laboring under an insane, epileptiform, uncontrollable impulse, for which he is not responsible, and I consider the cause of his mental aberration to be due to three causes : first, his heredity ; second, to the fact of his being an inebriate from his youth up ; and third, that it has been aggravated by his fall from the roof of the jail previous to his having committed the crime of which he is accused.

The expert in giving the Counsel his report should explain to him that it was his thesis, and that he was prepared to support it but not go one iota beyond that ; if he, the Counsel, was satisfied with that, he could go on with his case. If the Counsel saw any broken links he should call the attention of the expert to it, and see if the breach could not be mended without interfering with the general tenor of the report. There should be a perfect understanding between the expert and Counsel before they went into Court.

I would warn the expert not to go into Court having the same ideas that a great many persons have, and that is that the object of the trial of the accused is to arrive at *truth* ; to first find out if the accused did really commit the crime with which he is charged, and secondly, if he did so was he responsible for his act, that is to say was he overpowered by an impulse stronger than his will, and this

impulse the result of a teratological defect in his mental organization or a pathological defect, and was it the result of an insane or imbecile *desire* without malice or rational motive. If the expert expects this he will be disappointed. Under our laws every accused person is assumed to be innocent until he is proved guilty. That is the theory of our law, but it is not so in practice. From the moment the accused enters the Court he is in every respect treated as if he were guilty. The Crown Counsel accuses him of being guilty and assumes he is guilty, and does all he possibly can to prove him guilty, and throws every obstacle he can in the way of his proving himself innocent, so that practically the accused has to prove his innocence.

Again, every man is assumed to know the law, and to be capable of fulfilling the law, until it is proved by himself, or others, that in virtue of his abnormal mental organization he was incapable of fulfilling the law.

Now, it is a very easy thing to assume that a man *can* fulfill the obligations that the law imposes upon him, but it is quite a different thing to prove that, in virtue of his physical organization, he was incapacitated, and this is what the medical expert is called upon to do; he is called upon to satisfy the Court and jury that the accused was incapacitated, and therefore not responsible for his act; in fact he has to prove that the act was not his act, but the act of his abnormal organization. The expert may have a moral conviction, as I had in the case of Hayvern, of the man's irresponsibility, but to *convince* the Court and jury of that fact is quite another affair. There are a great many causes for this. The first and greatest cause is that medical men have not themselves agreed upon what constitutes insanity, what constitutes imbecility, what constitutes irresponsibility. Then the law does not define what mental state of a man renders him responsible. The law leaves it as a rule to the Court to define as it pleases on this point; so that one judge defines one standard, another judge defines another standard. The legal dictum has been changed five or six times within the last century, a proof that it is not based on common law, and certainly not on common sense. But the general legal dictum has been that every person who knows right from wrong is to be held responsible for his act. It was this legal dictum which caused Hayvern to be found guilty and hanged. But what a dictum! One that it is impossible to escape from; one that makes the whole trial a screaming farce ending in a tragedy; one that would put an end to the whole trial in five minutes if in the very beginning of the defence the question was put to the expert.

"Does the prisoner at the bar know right from wrong?" The expert would at once answer as I did, that I assumed he did know right from wrong, as the large majority of insane persons knew right from wrong, which should settle the whole question. The Court might then charge the jury thus: "The expert brought up for the defence admits the prisoner knows right from wrong, therefore he is responsible for his act; therefore, gentlemen of the jury, your duty is to bring in a verdict of guilty. This would save any further trouble. Lest I should appear to be exaggerating I will give His Honor's charge to the jury in the case of Hayvern:

"Mr. Justice Monk began to deliver his charge at 9.30 p.m. He said he would not make any lengthy remarks. The killing of Salter by Hayvern, the prisoner, was proved beyond doubt, and was admitted by the counsel for the defence. The remark that the crime was only manslaughter had no foundation at all. There was murder or there was not. It had been proved beyond doubt that there was premeditation and malice aforethought. Hayvern prepared his knife, waited for his victim, and executed his crime most effectually. The deed was one of the most skillfully performed tragedies on record. The preparation of the instrument which was to pierce the heart was also artistically effected. But there arises another point, and that is the plea of insanity. It is the opinion of enthusiastic scientists that insanity is on the increase. *It is admitted by the physicians that he could discern between right and wrong. The convulsions have not been shown to have been epileptic fits.* Dr. Howard is a man of great experience, but he is one of those scientific enthusiasts whose mind on this subject is formed of many theories, and it was for them to decide whether it is corroborated by facts. It is the first time that the prisoner is known to have had an uncontrollable impulse. It is strange that in the whole period of his criminal life he should have chosen the moment when he was in possession of a deadly weapon and premeditated the assassination of the man whose murder he accomplished. His opinion was that the prisoner at the bar was guilty of the murder of Salter, and that he had no faith at all in the plea of uncontrollable impulse, which, after all, has never been admitted in Canada, and only in special cases in England. After speaking for twenty minutes, he left the matter in the hands of the jury."

* "We glean from a report in the *Journal of Mental Science*, the editors of that quarterly refraining from commenting much on the report, that expert testi-

It is evident then, that no matter what proof an expert may bring forward as evidence of an accused person's insanity or imbecility, so long as he had to admit that the accused knew right from wrong, at the time that the expert examined him, at the time he was undergoing his trial, and assumedly when he committed the crime, seeing that the majority of the insane knew right from wrong, all other proofs of insanity must go for nothing.

The insane man is responsible for his acts because he knows right from wrong. Hayvern knew right from wrong, yet he had an undeveloped brain, an imbecile criminal brain, a brain in virtue of which he was what he was; and he did not make his own brain, yet he was held

mony in cases of disputed insanity in Canadian Courts is on a level scarcely higher than in some of our own. Our esteemed contemporary confines its criticisms of the case to the legal opinions pronounced in the course of the trial; and, indeed, it would have required great self-restraint to refrain from condemning the assumption of a judge who in his charge to the jury flippantly spoke of DR. HOWARD as 'one of those scientific enthusiasts, whose mind on this subject is formed of many theories.'

We think that DR. HOWARD merits positive indorsement, and we do not believe that a stronger support could be given to our colleague than the furnishing of a bare statement of the *undisputed facts*, on the strength of which he and DR. ANGUS MACDONELL pronounced Hayvern insane."

. "In his youth Hayvern had epileptic fits twice a week, began drinking heavily at sixteen, and had spells of furor, in which he had to be *tied*; a few days before the murder, he rushed up to a fellow convict, opened his shirt and asked him to run his knife through his breast. One of the medical witnesses for the prosecution inadvertently sustained DR. HOWARD'S view by describing the patient to have been in a perspiration with fright at sight of a stranger, and attributing the depravity of the prisoner to the '*muddle*' in which he had passed the greater part of his life. The low state of his intellect was vouched for by witnesses called by the defence as well as those called by the prosecution. The convict was executed, and profound deviations from the normal convolitional type discovered in the cerebral hemispheres. The gentleman conducting the examination did not, unfortunately, limit himself to chronicling the appearances found after death, but accompanied his post-mortem record by *several uncalled for and unwarrantable statements*, whose general tenor is best characterized by mentioning the fact that Professor Huxley, who, although an excellent comparative anatomist, is not usually regarded as an alienist, seems to be DR. OSLER'S chief authority for making them. It is greatly to be regretted that, in view of the nature of the deformity found, their interpretation, should be confused by attempting to bring them into relation with the findings of Benedikt, which have now received their *coup de grace* in AUSTRIA, in ENGLAND, and in this country."—*American Journal of Neurology and Psychiatry*, May 1, 1882.

by the law responsible for the physiological effects of his abnormal brain, and was hanged.

"*The convulsions have not been shown to have been epileptic fits.*" Shown as far as it was possible to be shown by me, who did not see the child in fits years before. I have as good a right to say it was not shown that they were not epileptic fits. I could only assume they were epileptic from the description given of them, and considering what the man's whole life had been. I had a perfect right to assume an epileptic neurosis; and then the character of the crime itself, its suddenness, and violence, confirmed my convictions of an epileptic neurosis.

"*It is the first time the prisoner is known to have an uncontrollable impulse.*" Why the man's whole criminal life was only a succession of uncontrollable impulses. With regard to the preparing of the knife for his victim, later events have shown that every single guard and prisoner in the Penitentiary, who came to Court to give testimony against Hayvern, knew that the ex-warden of the Penitentiary permitted Hayvern and a great number of the prisoners, to have these knives for the purpose of carving bones, hard wood, etc., to sell to visitors, and that the very evening, previous to the day of the murder, there were of these knives, with files, upwards of two hundred taken off the prisoners and from out their cells, and the worst feature in the whole trial was, that these very officials were silent in that matter, some of them testifying that he could not have had the knife except for the purpose of murder. From such evidence His Honor was *obliged* to assume that Hayvern prepared the knife for the murder. When the man was about to die, when all hope of pardon was over, and he knew it, when he had nothing to gain by stating a falsehood, he solemnly declared, calling upon his God to witness, that he never premeditated the crime; that he had had no ill-will against Salter; that he had the knife for months; that the other convicts had similar knives; that he and Salter were friends; that there was no cause for malice, and that God knew, but he did not, why he killed Salter.

I had written so far when I took up the *Montreal Witness* for January 13th, 1882, and clipped from it the following:

"The Guiteau trial has thoroughly disgusted the United States with the plea of insanity, which is always put forward in the case of criminals, for whom no other defence can possibly be made. A bill was introduced in the House on Monday last, which provides that no person indicted in the District of Columbia or any territory, or in any

court of the United States, shall be acquitted on the ground of insanity except on proof that at the time the offence was committed he did not know the quality or nature of the act, or did not know that it was wrong. Should this bill pass it will greatly lessen the number of those who are acquitted on this plea, *because it will be extremely hard to prove in the case of a really insane person that he did not know right from wrong.* Many who might be dubbed insane on account of their ill-balanced behavior know quite well the difference between right and wrong, but in most cases they have lost or impaired the power of resisting wrong impulses, and this loss is owing in a great measure to long-continued wrong-doing of some kind, *and there can be no doubt of the restraining influence of punishment for crime in the case of many people who are commonly excused as insane. Guiteau is not sane in the sense of having a healthy mind, but it is certain that he is as responsible as any sane person for the murder which he committed."*

I do not believe that an enlightened people like the Americans will ever permit the passing of such a barbarous law.* They might just as well make a law at once holding every insane person responsible for their acts, and that would be an advancement in civilization with a vengeance, but preferable to the proposed law. But, fortunately for the unfortunate imbecile and insane classes, all judges do not take this view of the question of right and wrong. When President of the Montreal Medico-Chirurgical Society I read a paper, February 7, 1879, entitled Responsibility and Irresponsibility in Crime and Insanity, when I made the following statement :

But if I have no hope to get legislation upon the criminal class of society, I have strong hope of having legislation upon the question of

* Guiteau, as every one expected, has been hanged, and the autopsy showed teratological and pathological defect of the brain. The former finding, as in the case of Hayvern, proving him to be an imbecile. The latter finding being more than probable sufficient to account for the man's insanity, probably recurrent mania ; at all events his insanity is now an established scientific fact, as much so as the insanity of Hayvern, and that he was insane has, as I have shown, been recognized by the leading authorities of Europe and America.

I would not have it supposed that I consider these post-mortem findings necessary to prove either Hayvern or Guiteau to have been insane, but their being found is a satisfaction to those who diagnosed their imbecility and insanity while living. While, if not a reproach, a warning to the inexperienced to be more cautions in the future in giving their testimony in a disputed case of insanity, and a warning to all not to allow their judgments to be biased by public prosecutors on the *howls* of society.

insanity, if for no other reason than to put a stop to our judges making themselves ridiculous before the whole world in their different definitions of what causes irresponsibility in the insane. Could there be anything more absurd than to find a Judge in the Province of New Brunswick making a statement the very contrary of that made a few months before by the Lord Chief Justice of England, "the Judge instructed the jury that unless there was an entire lack of knowledge to distinguish between *right* and *wrong*, they could not but find the prisoner guilty," the Lord Chief Justice of England said: "I coincide most cordially in the proposed alteration of the law, having been always strongly of opinion that, as the pathology of insanity abundantly establishes, there are forms of mental disease in which, though the patient is quite *aware* he is about to do *wrong*, the will becomes overpowered by the force of irresistible impulse." Here, gentlemen, is a difference, but is the Provincial Judge to be found fault with? I certainly think not; the fault lies with the Dominion Government for never having defined where responsibility terminated. I will now, for your information, and in support of my views, given before this Society three years ago, and for the information of our Legislature, quote the highest authority in England, both legal and medical. In *The Journal of Mental Science* (edited by Drs. Maudsley and Clouston) for April, 1878, page 22, is the following from the pen of David Nicolson, M.D., Deputy Superintendent State Criminal Lunatic Asylum, Broadmoor, England, "a bill introduced into the House of Commons in 1874, by Mr. Russell Gurney, with the view of amending the Law of Homicide led to the appointment of a committee, before which most important and hopeful evidence was given. *The following evidence of Lord Justice Blackburn speaks for itself, and virtually displaces the legal dictum of right and wrong.*" "We cannot fail to see that there are cases where the person is not clearly responsible, and yet knows right from wrong. I can give you an instance. It was in the case of that woman of whom I was speaking, who was tried for wounding a girl with intent to murder. The facts were these: The woman had more than once been insane, the insanity being principally brought on by suckling her child too long, which was the cause that had produced it before. She was living with her husband and had the charge of this girl, of about fifteen who lay in bed all day; she was very kind to her, and had treated her very well; they were miserably poor, and very much owing to that, she continued to nurse her boy till he was nearly two years old; and suddenly, when in this state, she, one

the man of ordinary intelligence is so from anatomical cause, and his physiological actions are the outcome of anatomical cause. He consequently recognizes that he owes a duty to society, of which he is part, the duty to *do his best* to live in obedience to all natural and social laws, and in doing his best he very generally succeeds. We do not find such men criminals. Moreover, an intellectual man's physical organization would suffer so acutely from such a life, from such privation, from exposure to the inclemency of the weather, that he would die of suffering, when the man of a low imbecile organization would not suffer at all; therefore from physical reasons it would be impossible for the intellectual man to lead such a life. But, says the prosecuting counsel, do you not, Doctor, recognize the historical fact that some of the greatest criminals who ever lived were men of not only ordinary but even extraordinary intelligence? It altogether depends upon what you should define as a proof of intelligence. I recognize that some great criminals have exhibited great knowledge, great cunning, great talent for deception, great memory, even great eloquence. I even agree with that very clever writer *Helen Campbell*: "That love of the fine arts could exist in men capable of every social crime; and that music, being the last and most artificial of all arts, had an infinite power to charm and fascinate those who had exhausted the other avenues of sensation."

But that is not the definition I have given of intelligence. I call the intelligent man, the man with an even-balanced mental organization, the man who seeks for truth for truth's sake, the man who does his best to do right because it is right, and who avoids, as far as he can, wrong because it is wrong, the man of benevolence, justice, and charity; such would be the characteristics of the man that I would call an intelligent man, the man of an intellectual organization; and I deny that such a man *could* be an habitual criminal, *could* live in the breach of all natural and social laws, *could* prefer evil to good. When such a man commits crime, he does it in virtue of a pathological change in his physical mental organization. I maintain that the more a man lives in accordance with this standard that I have just given, the greater proof does he give that he is an intelligent man; and that the nearer does he live to this standard, the more perfect is his physical mental organization. In answer then to your question, could not a man of ordinary intelligence, if he wished, live as did the prisoner at the bar, a life of crime in the breach of all natural and social laws? I answer, no.

Then, Doctor, you deny that man is a free agent, and that he has a

free will? I deny nothing of the sort, on the contrary, I hold that every man has a free will, but I deny that every man under all and every circumstances can control his imbecile or insane desire by the force of his will, or his imbecile or insane impulses by the force of his will. Moreover, I maintain that an imbecile or insane desire or impulse very frequently, indeed generally, is quite independent of the will.* But what of the man of ordinary intelligence? The man of ordinary intelligence, as a rule, controls his desire by his will. I do not deny but that such men are, sometimes, under extraordinary circumstances, at least extraordinary one's to him, led to be guilty of crime, and that they are responsible for their act. But I deny that such men ever can become habitual criminals. I maintain that the habitual criminal is such in virtue of his undeveloped organization, or in virtue of a pathological mental organization. In either case they are what they are, in virtue of their mental organization, and consequently should not be held responsible (legally) for their criminal acts. Nevertheless, the non-criminal class of society should be protected from the criminal class.

But, says the prosecuting lawyer, I suppose, Doctor, you have heard of very wicked men being converted and becoming very great saints, how do you account for such a change? I have not heard of very wicked men becoming very great saints, that is, I never heard of an habitual criminal becoming a saint. I would not myself like to trust such saints. However, if an habitual criminal become a saint, no matter what the remote cause of such a change might be, I would certainly consider the immediate cause to be a physical change in his mental organization. I cannot conceive a saint with a defective brain, or a distorted one like an imbecile, more particularly as the history we have of saints has been the history of men of the very highest order of intellect. But with your views, Doctor, where comes in legal responsibility? Just where I have already placed it, a man is legally responsible to do what he *can* do, not that which he knows it is right to do. Therefore I maintain that the insane man is not legally responsible for his acts because he is insane in virtue of pathological defect in his mental organization. The imbecile and habitual criminals are not legally responsible for their acts, because of a teratological defect in their mental organization, but the man of ordinary intelligence

* See note to page 48.

is, at least under ordinary circumstances, responsible to the law for his acts, because, in virtue of his normal mental organization, he can control his desires and actions by his will.

But who is capable of deciding in each individual case whether a man has a normal or abnormal mental organization? Not a judge and jury most decidedly. To decide this question belongs to the medical profession; yet I would be far from saying that every medical man is or should be capable of deciding so grave a question. No medical man, no matter how talented he may be, no matter how well read he may be, could possibly be capable of deciding such a question, unless he had years of experience in the treatment of the insane, in an insane asylum, and even that would not be sufficient, unless the man were a hard-working student, who studied and labored for his very love of his profession. In fact, he must be an enthusiast—but an enthusiast with wide views, nothing small or contracted in his ideas—an intellectual man, as I have defined an intellectual man, and he must necessarily be a benevolent man, basing his benevolence upon justice. To such a man or a board of such men the Governments of every country should submit for examination all habitual criminals, all persons accused of heinous crimes against the person, more particularly all those in whose defence the plea of insanity has been set up. For him or them to adjudicate upon the mental capacity of the accused, before any sentence was passed upon them for their crime, and the adjudicating of such a man, or such a board of men, should be final. Then would be prevented such scandals as took place on the trials of Hayvern and Guiteau; then would the insane man be sent to an insane asylum, to be treated for his pathological mental organization, and when recovered returned to society; then would the imbecile be sent to a proper asylum to be cared for, and if ever his defective mental organization became so developed, which is very improbable, as to fit him for society, he would be restored to it; then would there be provision made for the habitual criminal, who is such in virtue of his defective or deformed mental organization, whereby he would be completely separated from society till such time as his deformed or defective organization became normal, when he could be restored to society. But in the case of the insane, in the case of the imbecile, and in the case of the habitual criminal, if the insane never recovered, and if the imbecile intellect never became developed, and the criminal brain never became developed, then they could never be

restored to society ; but they must be treated with humanity and not harshness ; they must be treated as classes deserving of pity and not of blame.

A move in the right direction.—I clipped the following from the *Montreal Gazette* of February 17, 1882 :

“DEPARTMENTAL REPORTS—PENITENTIARIES.—The acting warden states that the discipline has suffered very much from the conduct of ‘half-witted convicts.’ In examining the report book, during one of my visits of inspection, I found that, by far the greatest number of reports for violation of rule, misconduct, etc., had been rolled up by a comparatively few prisoners, nearly all of the class—‘half-witted’—mentioned by the acting warden. It is a very difficult task to deal properly with these characters. They are not so far gone as to warrant their being sent to the lunatic asylum ; they are not sensible enough to hold them to strict observation of rule, or punish them for its violation. It would be well were there some asylum for imbeciles, other than the mad-house or penitentiary, where those unfortunate beings could be cared for, without being, on the one hand, forced to become the companions of raving maniacs, or, on the other, of habitual and vicious criminals.”

So far so good, and just what might be expected from such an intelligent and humane man as the Inspector of Penitentiaries, Mr. Moylan. It is to be hoped that the Government will do that which he recommended—it would be an earnest of something more in the near future.

So much for criminal irresponsibility. What is to be done with the criminals, if there are any, responsible for their acts ? It is a hard question to answer, one thing is certain, and that is, having made proper provision for the irresponsible criminals, crime would be reduced to such a minimum that there would be ample time to consider what had best be done with such criminals. Of course if there were proof that the law and punishment has been a terror to evil-doers, that punishment has prevented crime, and not only turned the criminal from the commission of one form of crime to the commission of another, then punishment would be justifiable. But that is the question. As for my part I believe that it would be impossible to prove any thing of the sort ; and here I would say a few words on the philosophy of crime and punishment. What is legal criminality ? One word can answer this question : all crime comes under one head *disobedience*. Why is it the nature of every man to resist obedience, for it is every man's nature ; no man

wishes to be controlled, and when men consent to be controlled it is because, from experience and education, they find it is good for all to be under control ; therefore the intellectual man finds it no burthen to submit to control, to submit to the law ; providing he finds the law, to be just, and not contrary to what he considers a higher law, the law of conscience. But with the non-intellectual man it is different : he is incapable of reasoning himself to the conviction that it is for his good to be controlled : he consequently obeys his abnormal nature and resists the law, and becomes a criminal in the eye of the law. His desire is to be free, and to be a law unto himself. From whence comes the idea that such a class of individuals could be brought to obey the law by inflicting on them punishment ? I suppose it originated with our barbarian forefathers having discovered that the nature of every man and every other animal was to shrink from suffering,* and they got the happy idea that men could be brought into subjection by the fear of punishment, consequently we have had punishment in every shape and form inflicted by man on his fellow for thousands upon thousands of years, that the stronger might bring the weaker into subjection and obedience. From this origin, no doubt, came the idea to which we yet hold, that the criminal can be rendered non-criminal by the fear of punishment. It has never entered into our philosophy to search and see the reason for men being criminals, if we had we would have seen that we never could remove the cause by the fear of punishment ; that punishment, nor the fear of it, never could develop an undeveloped mental organization ; nor could punishment, or the fear of it, remove a pathological defect from a mental organization. It must be understood that in these remarks I do not allude to what is well understood as political crimes, the cause of which is now and always has been CÆSARISM trying to destroy individualism and individualism always resisting Cæsarism since ever we have had a history of man. The stronger have endeavored to lord it over the weaker, and have always succeeded ; and the weaker, when they had the opportunity, have taken revenge upon the stronger, when the stronger have treated the weaker as criminals, for having, as they maintained, resisted and broken the law. But what law ? A law made by their oppressors to keep them in subjection, a law to which the oppressed was never asked to consent.† A law in the forming or framing of which the

* See note page

† Russia for example.

oppressed had no voice whatever, and to which they never assented. These so-called criminals I am not speaking of, nor would I classify them as criminals, much as I might regret and condemn their acts. I fully recognize that every man who claims the protection of the law should not only support but submit to the law, but I do not believe in Cæsarism and the destruction of individualism. No laws can be just that are not made for the good of the people, as a whole, and received and assented to by the people, as a whole; neither can any laws be just that will not bear the test of scientific truth. There can be no fact in law that is not a fact in science.

In the *Journal of Mental Science* for January, 1882, page 5581, there is one of those lucid editorials, not uncommon in that periodical, which no man can read and not feel refreshed from the perusal thereof; in fact, it gives him food for thought. The article in question is headed, "The Case of Lefroy alias Mapleton." The author says "Criminal responsibility, says Gasper, is the psychological possibility of the efficaciousness of the Penal Code."

"It is not a question of disputing whether the existing Penal Code has or has not, with respect to the community at large, any efficacy in restraining from crime. We trust that it has, or, as good citizens, it would be our duty to endeavor to induce our legislators to introduce such modifications into it as would imbue it with such efficacy. But putting to ourselves the question whether there existed in the case of Lefroy such mental defect as destroys the possibility of any restraining influence being exercised by the Penal Code of England, as it at present stands, we can come to no other conclusion than that his conduct gave a very decided negative to such a question." (H. Tuke.)

No doubt of it, and the same thing can be said of every man who, having ordinary intelligence, is guilty of crime; statistics show very clearly that the Penal Code is not efficacious in restraining the imbecile class of society, and in the case of Lefroy we have proof, if indeed proof were required, that the Penal Code is not efficacious in restraining the supposed-to-be man of ordinary intelligence. No man will have the hardihood to say that those who do not commit crime, or the non-criminal class, would commit it were it not for the restraining influence of the Penal Code, yet of two things one: the non-criminal is non-criminal either in virtue of, or independent of, the Penal Code. Now I maintain that as the Penal Code has proved itself inefficacious in restraining from crime the criminally disposed, so it is not in virtue of the Criminal Code that the non-criminal is not

criminal, consequently that the Criminal Code, as it now stands, is not only useless but burthensome to society, therefore, I conceive it to be the duty of every good citizen to endeavor to induce our legislators to introduce such modifications into it as would imbue it with such efficacy. But how is this to be done? By legislators recognizing the scientific truth, so well established by the Penal Code, that every man is what he is in virtue of his physical organization—the idiot, the imbecile, the insane, the criminal, and non-criminal; and, having recognized this as a scientific truth, to legislate accordingly, and make provisions to completely separate the criminal from the non-criminal class of society, that the latter, being protected from the former, might live in peace and security, and that the former might be protected from themselves.

No doubt but that very many, even a large majority of the community, will differ very widely from my views; and, amongst those, men of high scientific attainments, whose teachings will be, as they now are, to add to the severity of the Penal Code; to whip and starve the criminal. But these persons forget that all this has been tried in the past and has failed; that the more severe the Penal Code, the greater were the number of criminals: that when men were hanged for the stealing of a sheep, there were more sheep stolen than there have been since that barbarous law was wiped off the statute books. However, all men of science who recognize that every man is what he is in virtue of his mental physical organization, to be logical, must accept my views, and if he be honest must maintain them; bearing in mind, what I have already said, that nothing can be a fact in law which is not a fact in "science."

During this month, March, 1882, the Court of Queen's Bench was held in this city of Montreal, when a man by the name of Smith was found guilty of manslaughter, and sentenced to twenty years in the Penitentiary. Now if the learned judge hoped by this sentence he would set an example to evil-doers, that the law would be a terror to them, he will surely meet with a bitter disappointment. Why should Smith's punishment strike terror into the criminally disposed, when the hanging of Hayvern, in the month of December, 1881, and the hanging of Moreau, in the month of January, 1882, not two months past, did not strike terror into Smith and save him from being a homicide? In one month from the day of Smith's incarceration, not one out of a thousand will remember that Smith ever existed, and in one year society will not remember there ever

was such a man. If the learned judge considered Smith to be man who *could not* control his actions, and consequently was dangerous to society, then it were better he should have sentenced him to prison for life, or during the Queen's pleasure. For if he be such a man, he will not be the less dangerous after he has been in the prison for twenty years. But then such a sentence, for such a cause, would be recognizing that Smith was not responsible for his acts or for the particular act which made him a homicide.

It appears to me that there is one new theory upon which the punishment can be justified, and that is the theory of retributive justice, that Smith should suffer because he had caused others to suffer. But is this the object of the Penal Code? The pretence is otherwise. Smith, however, gave another proof that the Penal Code is not efficacious in restraining crime, as has the Lunatic McLean who fired at our gracious Queen, and in this case England will show how far civilization is in advance of our American cousins.* We are proud that no sane man would try to injure Her Majesty, that no one ever has attempted to injure her but lunatics. Our American friends would not have Guiteau insane, they preferred to believe that their President was killed by a sane man. If ever there was a retrograde movement it is treating Guiteau as a sane, responsible being. As far as I can judge, every crime that is committed, no matter by whom committed, gives additional proof that the Penal Code as it now stands is inefficacious in restraining crime, and that it should therefore be modified; and it appears to me that if every criminal was considered as such, whether he be the habitual criminal, the habitual drunkard, or the impulsive criminal, or the occasional criminal, in virtue of his abnormal mental organization, in virtue of teratological or pathological defect, and treated accordingly, that it would be the most efficacious, because the most scientific, means of restraining crime.

There can be no possible doubt of the great differences that there are in men, and no doubt but that such differences are due to the differences in men's mental organization. Whether this be the result of heredity, accident before birth, during birth, or after birth, whether it be the result of education or habit, whether it be due to teratological or pathological defect, has nothing to do with the question. The fact is there, that man intellectually is what he is in virtue of his mental,

* Since the above was written England has shown her civilization; she has properly treated McLean as a lunatic.

organization, and that this fact should never be lost sight of by law-makers or those who administer the laws. They should remember, to quote Dr. Bucknill again, that "Responsibility depends upon *power* and not upon knowledge and feeling; that a man is responsible to do that which he *can* do, not that which he feels or *knows* it right to do." And we never again should hear of the legal dictum, that the knowledge of right from wrong constitutes responsibility. The question of man's responsibility is not a matter of law but science, and it should be sufficient for judge and jury, when qualified medical mental experts pronounce a person insane or an imbecile, for judge and jury to treat the accused as one irresponsible for his acts. Until this is the law, my advice to a mental scientist, if called upon by a lawyer to examine into the mental capacity of a man accused of crime, is not to accept the proffered honor, to have nothing whatever to do with the case. The medical expert can do no good no matter how great may be his experience, no matter how clear may be his evidence of the man's insanity or imbecility. The Crown can bring forward any number of medical men to contradict all that the experienced expert has sworn to; and as a Doctor is a Doctor and nothing more nor less, to a jury, the jury will give a verdict with the majority. It was so in the case of Hayvern, it was so in the case of Guiteau, and it was so in the case of Bulmer,* and it will be so as long as the law remains as it is. Bringing medical experts into Court, while the law remains as it is, is simply a farce, and it is much better that the medical expert should refuse to play a part in it. Let the expert leave the responsibility to the judge and jury, until human laws are made or founded on the basis of benevolence and justice. The mental scientist must be content to teach scientific truth because it is truth, and hope that in time men will learn to do right because it is right, and not because they fear punishment or hope for reward. Until that time comes I, for my part, should be glad to see the Penal Code so modified that all criminals should be considered such in virtue of a teratological or pathological defect in their mental organization, and be separated from the non-criminal class of society, not for any given period, but during Her Majesty's pleasure, till such time as there was scientific assurance that such unfortunates were fit to be restored to society. And as drunkenness is temporary insanity, I would make it a criminal act for any man to sell sufficient liquor to be drunk in his tavern or bar-

* See note to page 85.

room to another person that would render him drunk. Teratological defect causes a man to be a drunkard and a criminal, and on the other hand, drunkenness produces pathological defect in the mental organization, rendering a man insane and a criminal. As the law now stands, punishment is most unjustly meted out to the unfortunate drunkard, when it is those who supply the liquor who are the actual criminals. I do not speak of liquor dealers as a class, far from it, but I hold the man, who will for money supply liquor to a man till he becomes drunk, to be a criminal of the worst sort ; and a liquor dealer, who supplies liquor to a man whom he knows is an habitual drunkard, is, if possible, a greater criminal still. I conceive such a man to be the meanest of all mean men ; as mean as the man who, having no argument to use against the science of evolution, or any other science, resorts to *ridicule*.

If any one doubts the inefficacy of the Penal Code in the Dominion of Canada for the prevention of crime, the following statistics will remove those doubts :

The report of criminal statistics of the Dominion for the year ending 30th September, 1880, is just out. It shows for the year previous :—Charged with offence against the person, 6,622 ; convicted, 4,507. Of those convicted, Ontario had 3,030 ; Quebec, 907 ; Nova Scotia, 229 ; New Brunswick, 187 ; Prince Edward Island, 74 ; Manitoba, 64 ; British Columbia, 5 ; Keewatin, 7 ; North-West, 4. Of those convicted, 2,136 lived in cities and towns and 496 in rural districts ; 182 were agricultural men, 432 commercial, 174 domestic, 590 industrial, 36 professional and 943 laborers ; 1,199 were married, 94 widowed, and 1,359 single. Charged with murder in the Dominion, 32 ; Ontario, 19 ; Quebec, 10 ; Manitoba, 1 ; British Columbia, 1 ; North-West, 1. Convicted of murder, 5 ; Ontario, 4 ; Quebec, 1 ; resident in cities and towns, 3 ; in rural districts, 2 ; natives of Canada, 2 ; United States, 2 ; Ireland, 1. Convicted of manslaughter in Canada, 7 ; charged with ditto, 18 ; charged with shooting and stabbing, wounding, etc., with intent, 139 ; convicted, 47 ; charged with rape, 39 ; convicted, 9 ; charged with endangering safety of passengers on railways, 18 ; convicted, 8 ; charged with concealing birth of infant, 8 ; convicted, 4 ; charged with abortion and attempt to procure the same, 9 ; convicted, 5 ; charged with sodomy and bestiality, 7 ; convicted, 4 ; charged with bigamy, 10 ; convicted, 4 ; charged with abduction, 7 ; convicted, 2 ; charged with aggravated assault and inflicting bodily harm, 253 ;

convicted, 120 ; charged with indecent assault and attempt to rape, 67 ; convicted, 37 ; charged with assault and battery, 5,576 ; convicted, 3,957 ; charged with robbery and demanding money with menace, 104 ; convicted, 45 ; charged with burglary and having burglars' tools, 114 ; convicted, 53 ; charged with house and shop breaking, 132 ; convicted, 78 ; charged with horse, cattle and sheep stealing, 82 ; convicted, 43 ; charged with larceny and receiving, 4,104 ; convicted, 2,248 ; charged with embezzlement, fraud and false pretences, 377 ; convicted, 89 ; charged with arson, etc., 70 ; convicted, 14 ; charged with killing and maiming cattle and other malicious injury to property, 987 ; convicted, 624 ; charged with counterfeiting, forgery and uttering, 125 ; convicted, 41 ; charged with drunkenness, 11,655 ; convicted, 8,435 ; charged with keeping houses of ill-fame, inmates and frequenters, 1,045 ; convicted, 721 ; charged with cruelty to animals, 216 ; convicted, 165 ; grand total of persons charged with all kinds of crimes and offences, 40,874 ; convicted, 28,209. Of those convicted Ontario furnished, 18,311 ; Quebec, 5,866 ; Nova Scotia, 1,655 ; New Brunswick, 1,473 ; P. E. I., 469 ; Manitoba, 271 ; British Columbia ; 47 ; Keewatin, 98 ; and the North-West, 17. Resident in cities and towns, 16,856 ; in rural districts, 3,059 ; agricultural persons, 998 ; commercial, 3,307 ; domestic, 1,563 ; industrial, 4,100 ; professional, 228 ; laborers, 7,213 ; married, 7,683 ; widowed, 1,242 ; single, 11,279 ; unable to read or write, 4,877 ; elementary education, 14,762 ; superior education, 289 ; under 16 years, 1,046 ; between 16 and 21 years, 2,671 ; between 21 and 40 years, 10,816 ; over 40 years, 5,860 ; age not given, 7,814 ; males, 25,059 ; females, 3,140 ; users of liquors, moderately, 7,411 ; users of liquors, immoderately, 11,736 ; natives of England and Wales, 2,112 ; Ireland, 3,833 ; Scotland, 874 ; Canada, 12,296 ; United States, 942 ; other foreign countries, 372 ; other British possessions, 102 ; religions : Baptists, 507 ; Roman Catholics, 10,826 ; Church of England, 2,497 ; Methodists, 1,406 ; Presbyterians, 1,508.

SOME EXPERIENCES OF A BARRISTER'S LIFE.

BY MR. SERJEANT BALLANTINE.

I had finished my manuscript, and had it ready for the printer, when a book bearing the foregoing title was put into my hands by a very valued friend, Dr. David. A more interesting or entertaining

book it has never been my good fortune to read. But to me it has been more particularly interesting for many reasons: *First*, that I have such a lively recollection of so many of the incidents recorded in it. *Secondly*, that so many of the characters were personally known to me, one most intimately, in his youth, the splendid handsome boy of fourteen years old, William Howard, who met with so sad an end, son of one of the most honorable, kind-hearted gentlemen that ever lived, quite independent of his title, one who was very kind to my father and to me in my youthful days. When I think of William Howard as I knew him it is hard to conceive that Serjeant Ballantine should have been able to write such a sad history of him, yet it is all true. *Thirdly*, it has interested me because I find my views of criminal insanity sustained by so great a lawyer, a man of such wonderful legal experience, as Mr. Serjeant Ballantine. My readers will thank me that I quote largely from his book, entertaining to any reader, but to the BENCH and BAR a gem of the first water.

“MURDER OF MR. DRUMMOND.

In the commencement of the year 1843, as a gentleman named Drummond was walking down Parliament street, he was fatally wounded by a pistol-shot, fired by a man of the name of MacNaghten, a Scotchman. It was clear that he was mistaken by him for Sir Robert Peel, whom it was his intention to have killed. As Mr. Drummond was a man generally respected, and of the most inoffensive habits, it was not unnatural that a storm of indignation should arise against the perpetrator of the act, whilst the patience exhibited by his victim during the few days that he survived the attack added to the general sympathy of the public.

MacNaghten was placed upon his trial for murder in the following February, Sir Nicholas Conyngham Tindal, Chief Justice of the Common Pleas, presiding. I have had occasion to refer to this judge, although not at any length, when giving an account of the Courvoisier trial. He was certainly not a man of startling characteristics, but upon the bench presented a singularly calm and equable appearance. I never saw him yield to irritability, or exhibit impatience. I should say in fact that he was made for the position that he filled, and sound law and substantial justice were sure, as far as human power could prevail, to be administered under his presidency.

It required a judge of this calibre to control the violent feelings of indignation launched not unnaturally against the accused. Sir William

Follet conducted the prosecution, and the late Lord Chief Justice, then Mr. Cockburn, was retained for the defence.

The facts were easily proved, and the only question that was in issue was whether the prisoner at the time of the commission of the crime was of sound mind, and the onus of showing the contrary practically devolved upon the prisoner's counsel. MacNaghten had been treated as a lunatic, and he appears to have imagined that Sir Robert Peel was bent upon his destruction, which he intended to prevent by the assassination. There was no ground whatever for even the belief that Sir Robert Peel knew him.

In a case not altogether analogous, but bearing some similarity to it, Erskine had made a most masterly and argumentative speech, dealing with the different phases of insanity, and Cockburn in his defense of MacNaghten had the advantage of this great advocate's views and treatment of the subject. This, however, did not detract from the merit of one of the most masterly arguments ever heard at the English bar. Several witnesses were called, and the facts that I have briefly stated were fully proved. Before the evidence was concluded, the Chief Justice appealed to Sir William Follet, who admitted that he must submit to a verdict acquitting the prisoner upon the ground of insanity, and this verdict was accordingly pronounced. A storm of indignation followed it. Mad or not, the prisoner ought to have been hanged. Such was no uncommon expression, and a general denunciation of mad doctors, and some not very complimentary remarks upon lawyers, might not unfrequently be heard. This outcry resulted in a very singular proceeding on the part of the House of Lords, which had no precedent, and fortunately has never been repeated. The judges were summoned by their lordships to express their opinions upon the law applicable to insanity in criminal cases. It seems to me surprising that they did not point out that such a proceeding was extra-judicial, and that their opinions could only properly be given upon certain facts arising before them in their judicial capacity, and that what was asked of them was to make a law in anticipation of facts that might hereafter arise. The same proceeding also might be adopted in relation to any subject, civil or criminal. However, the judges went and sat in solemn conclave, but as might be expected, being called upon to found abstract opinions with no facts to go upon, they have not greatly assisted the administration of justice.

The important points propounded by the judges seem to be as follows :—

'The only ground upon which an alleged lunatic is entitled to an acquittal is *that he did not know the difference between right and wrong in the act that he committed.*' If they had proceeded to say upon what principles this question was to be determined, some benefit might have arisen from their opinions.

The judges further say, 'that although a person may in a particular matter act under an insane delusion, and act in consequence thereof, he is equally liable with a person of sane mind.' I presume this to mean that unless it be shown that the delusion destroyed his knowledge of the difference between right and wrong, which is to be discovered and proved independently of the admitted delusion, he must be considered of sane mind. If these dicta are to be received as law, then a totally different principle governs civil and criminal cases, and a person incapable of making a will or executing a deed may, nevertheless, be liable to be executed for the commission of what in a sane person would be a crime. However startling this proposition is, it cannot be controverted, and it appears to me that the subject is one worthy of further consideration and much more careful analysis than have ever been applied to it. In the observations that I have already made, and in those that follow, I do not pretend to lay down any proposition or dictate any solution of the difficulty, but merely wish to suggest certain matters that in the course of my practice have presented themselves to my mind, with a view of attracting the attention of better informed and more experienced men.

That insanity exists to a most deplorable extent is testified by the numerous establishments, both public and private, for the care of lunatics, and the question of how far mental derangement, admitted to exist upon a particular point, affects the conduct of an individual beyond the scope of that point, is a subject worthy of the research both of medical men and lawyers. Doctors have introduced the term 'uncontrollable impulse,' and an excuse has been sought under this term for violent bursts of passion rising from natural causes; but are not such symptoms also the result of insanity? Have we not numerous instances in which under such influences the victims have destroyed themselves? It is not difficult to presume that they knew they were doing wrong; and, indeed, the cunning that in many cases attends their acts indicates that they did; but assuming one of the qualities of the sane human mind to be self-restraint, and supposing this barrier has been removed by insanity, ought the sufferer to be

held criminally liable for his acts, although evidence existed that he was conscious of the difference between right and wrong?

When Ravaillac assassinated Henry IV. of France, he believed that in doing so he was commending himself to God, and as many enthusiasts at all times and in all countries have acted under such impressions, it would be a dangerous doctrine to declare that because the sense of right and wrong had disappeared, a criminal should be deemed irresponsible; and yet, on the other hand, an utter lunatic may possess a sense of right and wrong in many actions of his life. The case is well known of a madman who was cross-examined by Erskine ineffectually for some time. At last the counsel obtained the clew, and in answer to a question he put the witness said, "I am the Christ." Upon a subsequent occasion, when again cross-examined, he carefully avoided the admission that had defeated him upon the former occasion. He was admittedly a lunatic, but certainly if he had been charged with a crime it might fairly have been contended that he knew the difference between right and wrong.

As I have said already, a civil act is destroyed by proof that the person performing it was at the time subject to mental delusion upon one subject, although in every other perfectly reasonable. The only principle upon which this rule can be founded is that the mind is one and entire, and if diseased it is impossible, whatever may be the external signs, to say to what extent, and in what direction, the disease extends. If this be good reasoning, surely it is equally applicable to the mind of a person charged with a crime. I cannot think that where an insane delusion is clearly proved, although numerous facts may be brought forward to show that the lunatic distinguished, up to the time of the offence, the difference between right and wrong, he ought to be consigned to the gallows. The gout that has taken possession of a man's toe suddenly leaps to his heart. When a man believes himself to be the Saviour how is it possible for human skill to tell what thought or opinion is likely to control any act of his life? The law must yield to the dispensations of Providence, however much prejudice and passion may seek to sway its administration.

I was witness of the result of the outcry that Drummond's assassination occasioned in a case tried before Baron Alderson at the Central Criminal Court. That very learned judge summed up strongly for an acquittal upon the ground of insanity. The jury, however, took the matter into their own hands, and convicted the prisoner. The judge made urgent recommendations to the Home Secretary, but,

nevertheless, the man was executed. It will not, I think, be uninteresting to record here one or two cases involving these questions, and in which I have at different periods of my career been engaged as counsel. One of them was of a very distressing character.

A lady of the name of Ramsbottom, the wife of an eminent physician, herself of middle age and generally respected, was suspected of pilfering from a draper's shop in Baker street, Portman Square. She was watched, followed, and her person was searched, and several small articles were found concealed in different parts of her dress. She was given into custody, went through the painful ordeal of an inquiry at the Marylebone Police Court, and was committed for trial at the Middlesex sessions. At the period when this occurred, Mr. Serjeant Adams was the presiding judge. He was thoroughly impartial and knew all the law necessary for his position, but it was not very well packed in the receptacle of his brain, and the particles constantly came out at wrong times and places. The case, however, could hardly have been confused; the facts were perfectly clear, the whole of the lady's life, as far as its history was known, was not only free from reproach, but thoroughly rational. The only point that could be relied upon for the defense was that the articles stolen were so trivial that no sane object could exist for intentional theft, and the only suggestion that could be made in her favor was that she was not responsible for her actions, being compelled by an uncontrollable impulse, or, to use a technical term, that she was the victim of kleptomania, not a very popular defence before a jury of tradesmen. However, after having been locked up for some hours, they were ultimately discharged without giving a verdict, a result arising probably more from compassion for the lady's husband than any doubt about the facts.

I thought at the time that if, instead of laying a trap for her, the proprietor of the shop had conveyed a hint either to herself or to the doctor, it would have been the kinder course, and subsequent circumstances showed that in reality her conduct was attributable to insane influences, although certainly she knew thoroughly well that she was acting wrongly.

She died very shortly after the ordeal she had undergone, broken down in health and spirit with the shame and disgrace, and I was consulted, after her death had taken place, by Dr. Ramsbottom under the following circumstances. Every drawer and cupboard in the house was found to be full of new goods, which she must have been

in the habit of abstracting during many years, and I believe that in every instance they were contained in their original wrappers. Mrs. Ramsbottom was a religious woman, and I cannot doubt that every Sunday she listened with respect and veneration to the lessons taught in the church, and fully realized the commandment of "Thou shalt not steal." And it is clear that she by the acts she committed incurred danger and obtained no advantage. I advised Dr. Ramsbottom not to make the discovery public, and the articles found were distributed amongst different charitable institutions. Can any one doubt that insanity irresistibly controlled her conduct?

Many instances are upon record in which this extraordinary mania is alleged to have developed itself. And one case is known where an attendant always accompanied a lady of high rank when she went out shopping, and paid for the articles she stole. Supposing in any of these instances the parties had committed a crime of a different description, would it be just to hold them responsible? The question is not unimportant, as such acts, if clearly proved, would, as the law now stands, invalidate a will.

Certainly the most remarkable and interesting case connected with mental derangement in which I acted as counsel was in connection with a will of a lady named Thwaites. She died at an advanced age, leaving a very large fortune, which she bequeathed to different persons with whom she associated during her lifetime, and none of whom were her relatives; and her next of kin disputed the will upon the ground that she was insane at the time of making it.

She had inherited the fortune in early life, unexpectedly, upon the death of her husband, and had administered it with judgment and discretion. She was neither niggardly nor profuse. She was charitable without being reckless, and kept her accounts, which were somewhat complicated, with accuracy and in excellent order. No restraint of any kind was ever placed upon her. She played whist, and, I am told, played it fairly well. She endured pain on different occasions with great resignation, and moreover there was nothing extraordinary in the disposition of her property, as she had never held much intercourse with her own relatives.

Unquestionably, however, she was guilty of some very extraordinary proceedings, and expressed some singular views. She asserted that she had been chosen by our Saviour to receive Him upon His return to earth, and that this event would therefore occur during her lifetime, and she indicated the reality of this belief by making very

extensive preparations for His reception, principally in the upholstery line, and there was a great deal of absurdity exhibited in the arrangements she made. Lord Penzance, before whom the case was tried, left it to the jury to say whether she was laboring under an insane delusion, and they found that she was, and he accordingly held that her will was invalid. The circumstances of this case suggest reflections as to how far religious opinions, absurd and ridiculous as they may appear to others, are to be accepted as proof of insanity. The main idea round which every thought and act rotated in her mind was the approaching return of the Saviour to earth. This surely cannot be treated as insane. The notion that she was selected to receive Him might be the product of vanity and the misunderstanding of some of the mysterious passages that occur in portions of the Scripture, whilst the preparations she made were only the natural consequences of such a belief on the part of a person of utterly unrefined ideas; and it is to be noted that she was a woman of no education, and from her earliest youth had been the object of fulsome attentions and flattery.

But a grave doubt has occurred to me as to whether the belief in question really had full and undivided possession of her mind, and whether there was not rather a pride in putting forward the claim. She sacrificed nothing of personal interest and comfort, and never appeared to undervalue the good things of this world in consequence of the great honor that was in store for her.

These speculations, however, are beside my main object in discussing the subject. For that purpose I assume that a delusion, utterly inconsistent with sanity, had taken possession of her senses, and that, therefore, she was unfit to execute any legal document. In what manner ought she to have been dealt with if she had committed what in a sane person would have been a crime? Her whole life showed that she understood the distinction between right and wrong, and if the issue left to a jury had been narrowed to that question, unless the fact that she was under a delusion upon the subject of the Saviour's returning to earth and becoming her guest could be treated as evidence that she was unable to tell right from wrong, she must have been convicted.

I have been engaged in many cases of interest since the constitution of the Probate and Divorce Court, before the three judges who have severally presided, and, amongst others, the very unhappy one of Lady Mordaunt. This unfortunate lady became insane after a confinement, and continued hopelessly so from that period. This was an instance

where the mind was entirely destroyed, and therefore it presented none of those difficulties which I have pointed out in other cases, and which I venture to think deserve the attention both of those who make the laws and those who administer them.

Having mentioned the Court of Probate and Divorce, this may not be an improper place to allude to its formation and the judges who have presided in it. When first constituted, Mr. Justice Cresswell, then a member of the Court of Common Pleas, was selected as its head, and it would have been difficult to make a better choice. He was a most able lawyer and a man of the world. He had been a successful leader at the bar, was an acute cross-examiner, and an utter despiser of all shams. He narrowly watched the demeanor of the witnesses who gave evidence before him, and usually formed just conclusions. I wish I could finish my sketch without a word of reproach or blame, but, in justice, I must say that his manner was too often supercilious, thus detracting from his high qualities. At the same time he was eminently just, and never carried any feeling he might have shown against either counsel or witness into the comments he made to the jury, and his perfect impartiality will, I am sure, be admitted and remembered by every one who knew him. He tried one very remarkable probate case, in which I opposed a will propounded by a person named Smethurst, presenting features which I think are of a very singular character. This man succeeded in upholding the will, which I attribute to one of the most admirable speeches I ever heard from Dr., now Sir John, Phillimore, who was his counsel.

Lord Penzance, a Baron of the Exchequer, succeeded Cresswell, who died from the result of an accident. He possessed all the high judicial qualities of his predecessor, whilst his demeanor was most courteous to every one, and, if it was his duty to differ from counsel, he did so with good taste and gentlemanly bearing. He had mixed much in the world, and thus obtained that knowledge which in the Divorce Court is peculiarly required. It was a matter of sincere regret when, in consequence of ill health, he was obliged to retire from office.

It would not become me to discuss the merits of Sir James Hannen, the present presiding judge, but I may say that I have been engaged with and against him in many cases, whilst he was at the bar, and I never knew a more conscientious or painstaking advocate."

"When first I met the subject of the above sketch, there was a contemporary of his, moving in the same circles, also accomplished

and popular. His name was Walsh. When I was in the lowest class at St. Paul's School he was in the highest, and when I joined the Home Circuit he was leader of the Kent Sessions. He married a lady of mature age, but possessing considerable fortune. When, many years after meeting him in London society, I was staying in Florence, I heard he had a villa there, and sought him out. He was in a deplorably hypochondriacal state, and nothing seemed capable of rousing him. Some time after this I was taken professionally to the house of a medical man in the Finchley Road, to assist in the examination of an alleged lunatic, and there I found my poor friend, hopelessly and miserably insane. I have every reason to believe that he was treated with skill and kindness, although I utterly disapprove of private lunatic asylums, it being naturally to the advantage of their keepers that the patient should remain under their care.

It is not many years ago that I became acquainted with a pregnant example of this evil. I was asked by a member of the bar to visit his brother at a private lunatic asylum of high class. He was confined there contrary to his brother's wishes, who did not think he was judiciously treated or required confinement. The family were wealthy, and a large sum was paid for the maintenance of the gentleman in question. I accordingly went down, and, calling at the house and sending in my card, requested permission to see the patient. I was told that the proprietor was not at home, and that in his absence I could not be permitted to do so, although I produced the brother's authority. I insisted, and threatened to move the Court of Queen's Bench if the refusal was persisted in, and at last I was admitted, and found the patient lodged in a very handsome suite of apartments, opening out upon some beautiful grounds. He made no complaint of his treatment, and was manifestly under the influence of insane impulses; but my astonishment was extreme, upon looking at the literature with which he was supplied, to find that it was of a character eminently calculated to foster the peculiar form of disease to which he was subject. An inquiry was subsequently held before a master in lunacy; the result was that he was released from the asylum, and put under the charge of a skilled person, and, subsequent to such superintendence, permitted his liberty. His removal was opposed by the proprietor, who lost by it a net profit of at least £600 per annum.

My old friend Charles Reade has described in works of fiction, with great power and ability, the evils that may arise from these institutions when in unscrupulous hands; and the existence of such

men as Dr. Tuke, and others whom I could name, whose sense of honor and general character place them above all suspicion, does not in my judgment make the system one to be trusted or approved of, and I am afraid that the protection intended by the law to be afforded by independent opinions is too often imperiled by a near connection existing between the proprietors of these asylums and the medical men who certify for the reception of persons supposed to be lunatics.

The whole subject of insanity, as I have elsewhere endeavored to show, deserves supervision—the nature of it, its obligations, and its treatment ; and if the statistics upon it are correct—and it is true that of late years there has been a great increase of the malady—no social evil better deserves a thorough legislative investigation."

THE PELLIZZIONI TRIAL.

During the year 1864 a trial took place at the Central Criminal Court which presents features worthy, for more reasons than one, to be recorded. In the first place, the life of a perfectly innocent man was placed in jeopardy, and in the next the course pursued by the police deserves attention and calls for remark.

It appeared that upon the 26th of December in the previous year a serious disturbance had taken place in a public-house situated on Saffron Hill, Clerkenwell. This locality was at the time inhabited by the humbler class of Italians, and a squabble arose between them and some Englishmen in the neighborhood, resulting in the death of a man named Harrington, who was mortally wounded, and in serious injury to another man of the name of Rebbeck.

In both cases the injuries inflicted were by some sharp instrument, and in all probability by the same one. An Italian named Pellizzioni was found lying upon the body of the deceased man, and was then seized by the police, who naturally inferred that he was the perpetrator of the acts. He, however, declared that he had only come in after they were committed, was endeavoring to quell the disturbance, and in the scuffle still going on was thrown upon the body of Harrington, who was not quite dead. No weapon of any kind was found near the spot. After some examinations at the police court Pellizzioni was committed for trial, and tried before Mr. Baron Martin upon the charge of wilful murder.

This learned judge had been a very successful advocate upon the Northern Circuit, where, however, he had not had any experience in the criminal courts, and, although essentially humane and kind-hearted,

was hasty in forming opinions, and slow in changing them ; and it was obvious that very early in the case he took a strong view against the prisoner, and summing up in accordance with it, a verdict of guilty was pronounced. Sentence of death was passed, the judge stating in the course of it that "he had never known more direct or conclusive evidence in any case." It would serve no useful purpose to discuss the testimony given by the various witnesses called, and I shall dismiss the question with this remark—that it was extremely conflicting, and there must have existed upon one side or the other very gross perjury. Several policemen were called and were examined at great length. *No knife was produced or alluded to on the part of the prosecution.*

The conviction of Pellizzioni produced a great sensation in the neighborhood where he resided, and where he bore the character of a singularly inoffensive man, and those who have known him entertained a very different opinion from Mr. Baron Martin, and a shrewd suspicion, if not a certainty, existed amongst them as to who the culprit really was. Doubts were ventilated through the columns of the *Daily Telegraph*, and the proprietors of that journal took a strong personal interest in the matter. Mr. Negretti, the well-known optician, who was also a countryman of the convict, was indefatigable in his behalf, and ultimately the force of public opinion in the neighborhood, and the interference of a Catholic priest, induced a man named Gregorio Mogni to confess that he was the person who had committed the crime, although, as he alleged, in self-defense.

Mogni was committed and tried at the following sessions of the Central Court upon a charge of manslaughter. It fell to the lot of Mr. Justice Byles to try the case. This learned judge possessed great acuteness, but showed very clearly that he was influenced by the strong view previously taken by Mr. Baron Martin.

I was instructed by the friends of Pellizzioni to prosecute, and Mr. Montagu Williams, upon very slight materials, and with very great ability, defended. Mogni was convicted, nor can I see how any other result could have been arrived at. This, however, brought about a very peculiar state of things, as there were two men now lying in Newgate convicted of the same crime. In the one case the judge had declared that he had no doubt of Pellizzioni's guilt ; in the other Mogni, who could not be mistaken, declared that he alone committed the crime. Fortunately for the ends of justice, whoever killed Harrington also stabbed Rebbeck, and so, to solve the difficulty, the Government put Pellizzioni through the ordeal of a trial for this latter offence, and

Mr. Giffard prosecuted on their behalf, which insured the certainty that the evidence would be fully sifted. The case occupied some time, I forget how long, and Mogni was called, and adhered to his confession. He was cross-examined very rigidly, but in the end the jury without hesitation acquitted the prisoner; and I do not entertain the slightest doubt that he was perfectly innocent, and very unpleasantly for himself, and at the risk of his neck, illustrated the old lines commencing "Those who in quarrels interpose." It is, however, very seldom that a man who has engaged solely in the endeavor to prevent strife has been placed in such jeopardy, and it is worthy of consideration to what this can fairly be attributed; I believe it arose from the haste and impetuosity with which the police first adopted a conclusion and afterward adhered to it, although they were well aware of circumstances that strongly militated against its correctness.

It will be remembered that upon the first trial no weapon was produced or alluded to on the part of the prosecution, though it will scarcely be credited that the knife with which both injuries were inflicted had been for some time before in the hands of the police. This fact was not brought before those who conducted the prosecution, nor before the jury who tried the case, and it is difficult to find satisfactory reasons for this concealment. The knife had been found at some distance from the spot where the crime had been committed, and could not have been conveyed there by Pellizzioni. It was known throughout the neighborhood that it was Mogni's knife, and it is difficult to believe that the police alone were ignorant of this fact.

Upon the subsequent trials it was produced, and identified by Mogni. He had, after stabbing the two men, handed it to a fellow-countryman named Cetti, who had thrown it in an out-of-the-way place, where it was subsequently found.

The public house in which the occurrence took place was evidently of a very low description, and the witnesses called upon the trial were not unlikely to be influenced by the opinion of the police. The police had the practical management of the prosecution before it came into court; and I have felt that in calling attention to its remarkable details, I am performing a useful duty to society.

It must be borne in mind that very few in the position of Pellizzioni would be likely to receive the aid of a powerful journal, or obtain the sympathy and assistance of influential friends.

Upon the original trial certain death-bed statements made by Harrington, when *in extremis*, were sworn to by a policeman, which

inculpated the prisoner, and which were said to be taken down by another constable. This circumstance doubtless was instrumental in obtaining the first verdict, but through the conduct exhibited by these witnesses it was entirely discredited by the juries upon the two subsequent investigations.

A short time after the acquittal of Pellizzioni I received a visit from the Marquis D'Azeglio, the Sardinian Minister, who was instructed to convey to me the thanks of his Government for my exertions in the case. This was the means of my forming a most agreeable acquaintance. The Marquis was very popular in English society, and I met him occasionally in London, and subsequently at Homburg, where, through his introduction, I passed many pleasant hours.

I understood from him that the services rendered to Pellizzioni in this country had been very warmly appreciated in his own. I believe that the Marquis died not very long after I had the pleasure of knowing him, and, if so, it must have been in the prime of life.

It is manifest that in all investigations in criminal matters, the police must form a very material element, and the correctness of the result must greatly depend upon their truth and accuracy. It is, therefore, most important that those who preside upon such inquiries should understand the characteristics of the body, and know something of their organizations. I fear that without such knowledge very serious mischances, and perhaps fatal ones, are likely to arise. I have had constant opportunities, of forming a judgment, and my remarks are not founded upon any prejudice against a necessary, and in many respects trustworthy, body of men ; but from the conclusions that my experience has forced upon me I am obliged to say that the evidence given by the police ought to be viewed with a considerable amount of caution.

Wherever men are associated in a common object, as in their case, an *esprit de corps* naturally arises, and this not unfrequently colors the testimony of individual members. Their duties are extremely trying, and calculated frequently to cause anger and irritation, feelings which almost invariably induce those possessed by them to exaggerate, if not to invent. The classes against whom they appear are usually without the position that commands consideration, and consequently statements made to their prejudice meet with the more ready belief.

The feeling of sanctity that probably once attached to an oath becomes deadened in the minds of those who are taking it every day, and an easy manner and composed demeanor are acquired by persons

constantly in the witness-box. There exists a very bad habit in the force of communicating their opinions at the outset of an inquiry, thus pledging themselves to views which it is damaging to their sagacity to retract. The Pellizzioni case furnishes an example of the evil arising from this habit. Everybody knows that "an experienced and intelligent officer has, with his accustomed acuteness," secured the murderer, etc.; and in this case the police did not like publishing the fact that they had committed a flagrant blunder, and so an innocent man was very nearly being executed. On the other hand, in many cases where constables have discharged their duties in a most exemplary manner, and may have been either disabled or killed, I cannot think that their services are sufficiently considered or properly rewarded; and, as I have said in a former portion of these pages, I do not think that nearly sufficient protection is thrown around them by adequate punishments being meted out to those from whom they have been subjected to serious injuries. In the earlier days of their existence they were very unpopular, and it was only natural that the Executive should use every effort to support them, and magistrates were censured occasionally for the views they took in certain cases against members of the force. Now, however, I am sure that as efficient a control as is possible is exercised by the Commissioners, and the magistrates perform their duties without dread of the Home Secretary, formerly a feeling not wholly without justification. As far as my observation has enabled me to form a judgment, the police preserve order in the streets with good temper and firmness.

The preceding reflections are made in no unkind or unfriendly spirit, but now especially, when judges who have never been inside a criminal court are called upon to preside in trials where the issues possibly involve the life of a human being, and where the police perhaps are material witnesses, my observations may not be altogether out of place or unworthy of consideration.

I am unable to furnish the date of the following case, in which I was engaged on the part of the defendant, a policeman; it was, however, after the trials of which I have in the last chapter given an account. In relating the circumstances I shall not express any belief as to the truth or falsehood of the charge made, but the view taken by the jury justifies me in quoting it as an illustration of some of the observations that I have presented to the reader.

In a certain district in St. John's Wood, shortly before the case I am recording, a number of burglaries had occurred, and great indig-

nation had been expressed at the supineness of the police, not unaccompanied by insinuations of a graver kind.

Two young men, of perfect respectability, as far as appeared from evidence that was adduced, were walking on their way home somewhat late one night in the neighborhood which had been the scene of the burglaries, and, according to their own account, they had done nothing that was calculated to excite suspicion, nor had anything upon their persons unusual for respectable people to possess. To their astonishment they were seized by three policemen, and charged with attempting to break into a house.

The three officers declared that they had watched them, and caught them in the act, and had actually taken from them the implements of burglary.

It is obvious that, if the young men told the truth, one of the most wicked cases of conspiracy ever known had been planned by the police, and was carried out by flagrant perjury.

The accused were discharged, and they, in their turn, prosecuted the three officers at the Central Court. The case stood for trial before the Recorder, Mr. Russell Gurney, whose name I have previously mentioned, and who, whilst thoroughly impartial, was rather inclined to the side of authority than otherwise.

The charges were for perjury, and it is right that I should mention, for the benefit of the general reader, that only one person can be included in an indictment for that particular offence.

This being so, the defendant charged was able to call, and did call, his two companions. The case was very ably conducted by Mr. Serjeant Sleigh, and he had the advantage, not on such an occasion a small one, of a reply. A very clear summing-up followed, and the jury, after some deliberation, convicted the accused.

It will be quite understood that I express no opinion as to the correctness or the reverse of this verdict. I thought, however, that it was of such very grave importance that I advised that the two remaining indictments should be removed into the Court of Queen's Bench, which was accordingly done, and the sentence upon the person already tried was postponed until the result of the further investigations. These were not, however, proceeded with, no public prosecutor existing at the time, and it is likely that the expense deterred the young men, who had sufficiently vindicated their characters, from proceeding any further in the matter."

I have in former chapters taken occasion to refer to the character

of particular classes of witnesses, to the temptations that exist in some matters to falsify facts, and the occasional deliberate manner in which this is attempted. And it ought to be remembered that the Crown Courts are the arena upon which beginners are launched in the profession. Unlike the Civil Court, the judge may not have, and generally has not, the assistance of the ablest and most experienced advocates to take all human care that nothing shall escape notice that requires consideration, and therefore much more must necessarily be left to his experience and a mind assumed to be practiced. In a civil proceeding, however small the stake, he can be corrected if he should err, and upon this ground new trials frequently take place. But no court of appeal exists to which a fellow-creature condemned to expiate a real or supposed crime upon the scaffold has a right to resort for correction of erroneous law or a wrong conclusion of fact.

In the account I have given of a previous case, I have shown the imperfect means existing in the hands of the Home Secretary, and the mischievous results that occurred from there being no others.

I wish that my observations should be of service and produce inquiry, and this object would not be attained by any exaggeration. I am confident of the earnest desire of those who are called upon to fulfil their novel duties to accomplish the object, but they cannot by intuition jump into the knowledge that is required to do so.

As I conscientiously believe that the employment of untrained men to try grave criminal charges is a great and serious evil, I wish to show my entire absence of prejudice by quoting the admission from all quarters of the bar of the agreeable manner in which they have hitherto presided, but this is only what would be expected of highly-educated, kindly gentlemen. And I am by no means sure that a barrister likes a judge the less because now and then he lets him get a verdict that he has no right to expect.

I have often thought over the subject of an appeal in criminal cases before it was forced so prominently forward as it now is by the appointment of barristers to the bench who have no experience in this class of work, and I believe no one doubts for a moment the principle, but, as I am aware, great and serious difficulties surround the subject, and it threatens an inquiry into the whole system of criminal procedure: and although I have neither the pretension nor ability to be a law reformer, my experience may enable me to give some hints not altogether useless to those who may be called upon elsewhere to deal with this subject.

Let me lay down some axioms which I believe are sound :

Harshness and over-severity affect seriously the administration of justice, by rendering juries unwilling to convict. and acquittals obtained through weakness encourage the criminal classes in the pursuit of their career.

In grave crimes, such as murder, a failure on one side or the other, through want of experience on the part of the judge, is always damaging, and may produce shocking consequences.

A commission composed of very learned men has been engaged lately in preparing suggestions for a code of the criminal law; and no doubt if such a production could be accomplished, it might materially facilitate the administration of justice throughout its different channels. I am doubtful, however, notwithstanding the energy and labor of Sir James Fitzjames Stephen and his associates, whether we shall ever see it accomplished. But I think that at very little expense or trouble much simplicity might be introduced where it is greatly wanted, and that in many instances tolerably accurate definitions might be secured. I think, also, that many offences clearly defined might be accurately classified and that each person before his trial might, with advantage, be supplied with a statement of his offence in intelligible everyday terms. I do not think any real substantial good can be effected without the creation of more judges, and it has occurred to me that this might really be made the means of saving, instead of creating, expense, and at the same time effecting the much-desired object of a court of appeal. I think that members of the new body should sit throughout the year, as the police magistrates do—a quorum of them to hear appeals, and the others relieving the different jails. I should give the right of appeal in all cases, subject to certain limitations determined by the punishment inflicted—at all events, to begin with.

The court of appeal ought to have the power of both diminishing and increasing the punishments inflicted by the judges of first instance. It would not be called upon to rehear the cases, but decide as is done at present by the tribunals who hear motions for new trials in civil suits, members of the Criminal Appeal Court being embodied with the High Court of Justice, and receiving aid from their brother judges. In the above sketch of a plan that has long occurred to my mind as being a basis to go upon and in any endeavor to amend the present state of things, I should not, of course, interfere with the privilege of the Crown to remit sentences, but should give it

the assistance now so fatally wanting in coming to a conclusion upon substantial grounds.

The facilities and cheapness with which the metropolis can now be reached induce me to think that the ambit of the Central Court might be extended with advantage to further distances, and that a court upon similar principles might be established in the larger towns. There would be no objection to the aldermen still pursuing the duties that they now so innocently perform, but elective judges ought summarily to be abolished.

I wish also that our legislators would give their attention to the question whether a system of transportation could not be established. I am confident, as I have said already, that it is the most preventive punishment (unless death is excepted) that has been inflicted in modern times, and I look upon convict prisons and the system pursued in them with great misgivings. The inmates appear to me to have a sodden appearance, and there is a painful similarity in their faces to those whom a visitor will see grouped in lunatic asylums. I believe that with no small proportion of the criminal class the hope of their being reformed is utterly contradicted by experience, and yet the idea of imprisonment for life is repugnant to our feelings, and in many instances would be unjust. *How can society be benefited by the convict of some four or five years being handed back to his old associates? Even if he have the desire to reform, he has overwhelming temptation to follow his old courses.*

Society, too, gives him no aid in an honest endeavor. Where is the householder who will, knowingly, take the released felon into his establishment? And, therefore, if he succeed in obtaining any employment, he must do so by concealment, really amounting to a fraud upon the employer—a bad beginning for an honest service. And there are the eyes of two sections of mankind constantly upon him—his former accomplices, and his more recent, but not less dangerous, acquaintances, the police."

CONCLUSION.

I have read my manuscript over for the last time, before placing it in the hands of the printer, and I am not satisfied with it. I find I have not said all I have to say, and that what I have said could very easily have been better said ; yet I am determined to let it stand, for if I once began to alter and change there would be no end of it, and probably I would only make it worse instead of better. I am afraid Dr. Bucknell, if he considers it worth his notice at all, will say my facts are thrown together "like a heap of stones." Well, I had something to say, or I thought I had, and I had to say it in my own way, certainly not elegant or stylish, nor yet sentimental, but I lay claim to truthfulness, and to having done my best ; moreover, I have not "set down aught in malice," nor have I presumed to try and raise the veil between the natural and supernatural ; I have confined my investigations to the natural order. To me science is one thing, my faith is another. I am very much indebted to a large number of my friends for assistance rendered me, amongst whom are John Reade, Esq., Doctors F. W. Campbell, R. P. Howard, C. A. Wood, Geo. Ross, Angus C. Macdonald, A. H. David, W. de M. Marler, Esq., and the very learned Dr. T. Sterry Hunt, of Montreal, also to Dr. J. G. Kiernan, of Chicago ; and Dr. Workman, of Toronto ; to these last six named gentlemen my thanks are more particularly due as they have in various ways rendered me such valuable assistance, and given me, from time to time, such useful information, that I feel I owe to each and all of them a debt that I never can repay except by gratitude.

To those gentlemen, judicial, legal and medical, who differed from me in the views I held of the mental state of Bulmer and the unfortunate Hayvern, I beg to assure them of my highest respect and esteem ; and if during the heat of discussion I made use of one word that caused any of them annoyance, I did so unintentionally, and ask to be permitted to withdraw that word.

1.00
net-

LANE MEDICAL LIBRARY

—
This book should be returned on or before
the date last stamped below.

10M-8-52-72329

L343 Howard, Henry
H84 A rational material
1882 istic definition of
insanity & imbecility

NAME

DATE DUE

TON-10-51-6998A

